2025台灣腦中風學會年會 NOV. 01-02

高雄醫學大學 國際學術研究大樓

智慧港灣
領航腦中風新進展
Smart Harbor: Navigating Future Stroke Care

大會手冊

社團法人台灣腦中風學會
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年會榮譽大會主席的話

2025年TSS學術研討會的主會場再度返歸大學校園內舉辦，對於高醫大和臺灣腦中風學會，算是睽違30年的重逢或邂逅（學會成立翌年---首次學術研討會1996.4.11就在高醫大辦理）。撇開會場內正式的學術交流，大學校園周遭的隱匿場域無形中提供了閒散輕鬆的氛圍，方便諸位老、中、青會員跟隨著陳龍理事長和大會主席趙雅琴教授，頂著腦中風這個議題，逕自去追憶、沉澱個人的青春抱負；抑或思索學會始創以來，曾經有過的奮鬥、拚搏以及今日創新、整合和開創新局的發展軸線。學術上Symposium這個詞固然專指討論會或座談會，但昔日遠古的含義其實是涵蓋著吃喝玩樂和休閒聊八卦。

全球腦中風臨床研究和藥物試驗的重心繞了個方向轉向亞洲，是最近這幾年才發生的事。歷任理事長、秘書長以及理、監事的努心經營，加上全體會員群策群力的後援支持，透過長期的國際合作和學術交流，在澳洲團隊帶頭下，我們終能並肩日本、韓國和中國大陸，順勢滑上引領風騷的浪頭。在國內，十幾年來學會經歷不斷的溝通、訴願甚至衝撞，終能獲得衛生福利部各個部門長官的允諾，決定在腦中風這個課題投入更多的資源，這項功績理應由全體會員分享。

這次年會的節目安排概分為3個部分。其一，主軸腦中風教育訓練：含小血管疾病（SVD，基因、影像、認知、防治和篩檢）和大血管疾病（LVO，緊急處置、技術指導交流和臨床試驗），並搭配AI在腦中風各個階段的Application。來自澳洲、美國、加拿大、韓國和日本的頂尖專家分別在演講之外，將介紹最新的臨床試驗平臺；其二，中風個案管理師認證課程，這是學會循序漸進的系列計畫課程，旨在強化個案管理師從中風個案的照護協調到資源匯集、成效評估的能力，以滿足個案和家庭健康的需求。畢竟，個管師的存在並非只是協助醫院應付各項評鑑。最後，學會邀請衛生福利部高階長官參與座談，這腦中風醫療暨照護政策的雙向溝通涵蓋急性腦中風各階段、各層級合理的勞務給付。良善的醫-病溝通證實對健康品質提升大有助益，那麼，良善的官-醫對話當能消彌當今急重症醫療人力匱乏的危機，促使健保體系免於崩解。

敬愛的諸位前輩和會員，請盡快下定決心註冊、訂房、與會，你的同儕、好友已經迫不及待要跟你相聚。TSS準備好了，高醫大準備好了，高雄–這個海港城市，也準備好了，愛河、駁二和棧二等著跟你們訴衷情！

大會名譽主席 林瑞泰

年會大會主席的話

各位尊敬的學會會員、專家先進、年輕學者與夥伴，大家好：

在這秋意漸濃的季節，我們齊聚於高雄醫學大學國際學術研究大樓，迎來台灣腦中風學會2025年度學術年會。今年的主題是「智慧港灣領航，腦中風新進展」，寓意我們將以智慧醫療為港灣，以創新研究為舵手，攜手航向腦中風照護的未來。

本次大會規劃了多元而深入的內容：

- 在急性治療部分，我們聚焦於腦小血管疾病、神經血管介入與血栓處置，以及急性期中風的最佳治療策略。
- 在創新科技方面，特別安排了AI在中風中的應用與臨床試驗平台的分享，探討如何將人工智慧與大數據真正轉化為臨床助力。
- 在整合照護層面，從中風後復健、風險因子管理，到認知障礙與心腦整合議題，都有完整討論，強調跨領域合作的重要性。
- 我們同時安排Case Manager認證與工作坊、Ultrasound認證，以及Stroke Game等特色課程，展現學會對臨床人員教育與培訓的重視。
- 在國際學術交流部分，我們特別榮幸邀請到來自國際的重量級專家，包括Prof. Jin-Moo Lee、Prof. Andrew Demchuk、Prof. Hugh Markus，與我們分享全球腦中風研究的最新進展。
- 此外，還有最佳論文發表、青年醫師交流與海報展，提供新世代學者展現研究成果的舞台。

各位先進，腦中風的防治，是一場與時間賽跑的戰役。如何從「急性期快速搶救」到「長期照護與生活重建」，再結合「AI與智慧醫療的創新」，是我們共同的挑戰與使命。這次大會，正是一個智慧交流、跨域整合、世代傳承、國際接軌的平台。

最後，我要感謝每一位投入準備的同仁，以及所有撥冗參與的會員朋友。誠摯期盼大家在兩天會程中，不僅收穫知識與啟發，更能建立合作與友誼。也祝福各位在高雄這座美麗的港灣城市，留下難忘的回憶。

祝本次年會圓滿成功，謝謝大家！

2025腦中風學會年會大會主席 趙雅琴

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【適應症】1. 用於靜脈血栓高危險群病人，以預防其於接受下肢重大骨科手術後之靜脈血栓栓塞症 (VTE)。2. 預防非瓣膜性心房纖維顫動病人發生中風與全身性栓塞。3. 治療成人急性深層靜脈血栓 (DVT) 及 / 或肺栓塞 (PE)。4. 預防成人再發性深層靜脈血栓 (DVT) 及/或肺栓塞 (PE)。說明：各適應症的詳細用法用量請參見用法用量段落。**【用法用量】**本藥須由醫師處方使用。用法 Pradaxa® 空腹或飯後服用均可。應以一杯開水配服，以利到達胃部。如果病人出現胃腸道症狀，建議可隨餐併用 Pradaxa® 及/或投予質子幫浦抑制劑如 pantoprazole。應告知病人，勿將膠囊打開，因為這可能增加出血風險。用於靜脈血栓高危險群病人，以預防其於接受下肢重大骨科手術後之靜脈血栓栓塞症 (VTE) 膝關節置換手術後的病人 Pradaxa® 的建議使用劑量為每次口服 150 mg (兩顆 75 mg 膠囊) 或 220 mg (兩顆 110 mg 膠囊)，一天一次。治療應於手術結束後 1–4 小時內開始 (口服一顆膠囊)，隨後每次服用 2 顆膠囊，一天一次，總計 10 天。髖關節置換手術後的病人 Pradaxa® 的建議使用劑量為每次口服 150 mg (兩顆 75 mg 膠囊) 或 220 mg (兩顆 110 mg 膠囊)，一天一次。治療應於手術結束後 1–4 小時內開始 (口服一顆膠囊)，隨後每次服用 2 顆膠囊，一天一次，總計 28–35 天。預防非瓣膜性心房纖維顫動病人發生中風與全身性栓塞 建議使用劑量為每次口服 110–150 mg，一天兩次，空腹或飯後服用均可。視病人個人條件及臨床狀況使用之 一顆 150mg 膠囊可用兩顆 75mg 膠囊代替。治療成人急性深層靜脈血栓 (DVT) 及 / 或肺栓塞 (PE) 成人建議於注射型抗凝血劑治療至少五天之後，使用一天300 mg 劑量的 PRADAXA® (每次口服一顆 150 mg 膠囊，一天兩次)，持續治療 6 個月。預防成人再發性深層靜脈血栓 (DVT) 及/或肺栓塞 (PE) PRADAXA 的建議使用劑量，為一天 300 mg (每次口服一顆 150 mg 膠囊，一天兩次)。根據個別病人之風險，可終生持續治療。**【禁忌症】**已知對dabigatran或dabigatran etexilate或本產品的任一賦型劑過敏、嚴重腎功能受損（肌酐肝清除率< 30 ml/min）、有出血症狀表現、存在出血因素、或有自發性或藥物性止血功能受損的病人、存在臨床嚴重出血風險的器質性病變，包括過去6個月內發生的出血性中風、同時接受全身性ketoconazole, cyclosporine, itraconazole治療、人工瓣膜置換、glecaprevir/pibrentasvir之固定劑量複方藥品。**【警語及注意事項】**肝功能不全、出血風險、與P- 醣蛋白的交互作用等 **【不良反應】**本藥品的不良反應與dabigatran etexilate的藥理作用相關，且為不同人體器官發生出血相關的事件。**【藥商】**台灣百靈佳股格翰股份有限公司 **【地址】**台北市中山區民生東路三段2號12樓 **【製造廠】**Boehringer Ingelheim Pharma GmbH & Co. KG, Binger Strasse 173, D–55216 Ingelheim am Rhein, Germany **【國外藥品許可證持有者】**Boehringer Ingelheim International GmbH。**【特殊警語及注意事項】**Idarucizumab會與dabigatran發生專一性結合，反轉其抗凝血作用，但不會反轉其他抗凝血劑的作用。Praxbind®治療可搭配醫療上允許的標準支援性措施使用。過敏、遺傳性果糖不耐症、血栓栓塞事件、凝血參數再度升高、可逆潛性。**【副作用】**Praxbind® 經納入 224 名第一期試驗之志願受試者及第三期試驗之 503 名病人為對象，評估 Praxbind® 之安全性。其中，第三期試驗病人對象為發生控制不良的出血，或需要接受緊急手術或醫療措施，並且正使用普栓達® (Pradaxa®) 治療者。試驗中並未觀察到不良反應。**【藥商】**台灣百靈佳股格翰股份有限公司 **【地址】**台北市中山區民生東路三段 2 號 12 樓 **【製造廠】**Boehringer Ingelheim Pharma GmbH & Co. KG, Birkendorfer Strasse 65, 88397, Biberach an der Riss, Germany **【國外藥品許可證持有者】**Boehringer Ingelheim International GmbH **【僅限醫藥專業人員參考，處方藥物請參考衛生福利部核准仿單說明書】修訂日期：2022年10月 核定日期：2023年 07月**

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【適應症 / 用途】Praxbind® 屬於一種專一性的 dabigatran 反轉作用劑，適用於接受普栓達® (Pradaxa®) 治療而需要快速反轉 dabigatran 抗凝血作用的成人病人：1. 供緊急手術 / 緊急程序使用 (urgent procedures)。2. 於威脅生命或控制不良的出血時使用。**【用法用量】**Praxbind® 建議劑量為 5 g (2 x 2.5 g/50ml)。Praxbind® (2x2.5 g/50 ml) 應以靜脈注射方式施用，分成兩次，各於 5–10 分鐘內完成連續輸注或是快速靜脈注射。重新開始使用抗凝血治療，施用 Praxbind® 24 小時後，若病人臨床狀況穩定且已獲充分止血，即可再重啟普栓達® (Pradaxa®) 治療。施用 Praxbind® 後，若病人臨床狀況穩定且已獲充分止血，也可開始使用其他抗凝血治療 （例如：低分子量肝素）。缺乏抗凝血治療時，病人會因潛在疾病或狀況而有發生血栓風險的可能性。**【禁忌症】**無。**【特殊警語及注意事項】**Idarucizumab會與dabigatran發生專一性結合，反轉其抗凝血作用，但不會反轉其他抗凝血劑的作用。Praxbind®治療可搭配醫療上允許的標準支援性措施使用。過敏、遺傳性果糖不耐症、血栓栓塞事件、凝血參數再度升高、可逆潛性。**【副作用】**Praxbind® 經納入 224 名第一期試驗之志願受試者及第三期試驗之 503 名病人為對象，評估 Praxbind® 之安全性。其中，第三期試驗病人對象為發生控制不良的出血，或需要接受緊急手術或醫療措施，並且正使用普栓達® (Pradaxa®) 治療者。試驗中並未觀察到不良反應。**【藥商】**台灣百靈佳股格翰股份有限公司 **【地址】**台北市中山區民生東路三段 2 號 12 樓 **【製造廠】**Boehringer Ingelheim Pharma GmbH & Co. KG, Birkendorfer Strasse 65, 88397, Biberach an der Riss, Germany **【國外藥品許可證持有者】**Boehringer Ingelheim International GmbH **【僅限醫藥專業人員參考，處方藥物請參考衛生福利部核准仿單說明書】**

栓體舒® 注射液 50 毫克 Actilyse® Injection 50 mg / 栓體舒® 注射液 20 毫克 Actilyse® Injection 20 mg (衛署藥疫輸字第 000743 號)

【適應症】急性冠狀動脈栓塞之血栓溶解、急性大片肺栓塞、急性缺血性中風之血栓溶解。**【主成分】**alteplase **【用法用量】**本藥限由醫師使用。ACTILYSE 必須在症狀出現後，儘快給藥。急性心肌梗塞 a) 症狀出現在 6 小時內之急性心肌梗塞病人，適用 90 分鐘（加速）之劑量療法：病人體重≥ 65 公斤：最初，靜脈注射 (intravenous bolus) 15 毫克；接著，50 毫克靜脈輸注 30 分鐘；隨後立即，35毫克靜脈輸注60分鐘，直到最高總劑量達100毫克。病人體重< 65 公斤者，總劑量應依體重調整如下：最初，靜脈注射 15 毫克；接著，每公斤體重 0.75 毫克，靜脈輸注 30 分鐘（最高劑量為 50 毫克）；隨後立即，每公斤體重 0.5 毫克，靜脈輸注 60 分鐘（最高劑量為 35 毫克）。b) 症狀出現在 6 至 12 小時之間之急性心肌梗塞病人，適用 3 小時之劑量療法：最初，靜脈注射 10 毫克；接著，在第一個小時靜脈輸注 50 毫克；隨後立即，40毫克靜脈輸注2個小時，直到總劑量達 100 毫克。病人體重< 65 公斤者：靜脈輸注三小時，最高總劑量勿超過每公斤體重 1.5 毫克。急性大片肺栓塞 總劑量 100 毫克投與 2 小時。大多使用下列劑量療法：最初，以 1–2 分鐘靜脈注射 10 毫克；接著，90 毫克靜脈輸注 2 小時，直到最高總劑量達 100 毫克。病人體重< 65 公斤，靜脈輸注2小時，最高總劑量不可超過每公斤體重 1.5 毫克。肺栓塞之診斷必須用客觀方法如顯血管攝影術(pulmonary angiography)或非侵入性方法如肺掃描來確認。急性缺血性中風治療急性缺血性中風的總劑量勿超過 90 毫克，建議總劑量為每公斤體重 0.9 毫克（最大劑量為 90毫克），以總劑量的 10%為起始劑量，以靜脈注射 (intravenous bolus) 投與，剩餘的量以靜脈輸注(infusion) 60 分鐘。應於中風發作 3 小時內儘早開始治療。病人應以適當之顱影技術如腦部電腦斷層攝影(Brain CT)排除顱內出血病人。**【禁忌症】**已知對主成分 alteplase或其他賦形劑過敏之病人；有高出血風險之病人。急性心肌梗塞和急性大片肺栓塞另有下列之禁忌症：曾發生出血性中風或不明原因的中風；過去 6 個月內曾發生缺血性中風或暫時性腦缺血(TIA)，但不包括過去 4.5 個小時內發生的急性缺血性中風。急性缺血性中風另有下列之禁忌症：輸注本藥前，缺血性發作的時間已超過 4.5 小時或症狀發作時間不明；輸注本藥前，急性缺血性中風的症狀已迅速改善或症狀輕微；臨床（例如 NIHSS＞25）及/或適當之影像術評估為嚴重之中風；中風發作時併發癲癇；最近三個月內有中風病史或有嚴重性頭部創傷；過去曾患中風及合併糖尿病；中風發作前 48 小時內使用 heparin，且病人活化部份凝血酶原的時間值(aPTT)過高；血小板少於 100,000/mm3；活動性內出血；收縮壓＞185mmHg 或舒張壓＞110mmHg，或需要積極的治療（靜脈給藥）以降低血壓至前述界限以下；血糖＜50mg/dL 或＞400mg/dL (< 2.8 mmol/L or > 22.2 mmol/L)。ACTILYSE 不適用於治療兒童及未滿十八歲之青少年。**【警語及注意事項】**治療急性心肌梗塞、急性大片肺栓塞和急性缺血性中風：ACTILYSE 應在具監視其使用之設備下，由具使用血栓溶解劑經驗的醫師使用。如同其他的血栓溶解劑，建議應在具備標準心肺復甦設備及藥物的情形下，投予 ACTILYSE。過敏：如果發生嚴重過敏反應(如:血管性水腫)，應停止輸注，並立即採取適當的治療措施，包含插管。出血：以ACTILYSE治療時，最常見的合併症是出血。併用其他影響凝血或血小板功能的活性物質可能導致出血。可追溯性：為提高生物藥品的可追溯性，應將所施用的藥品商品名和批號清楚地記錄在病人檔案中。治療急性心肌梗塞及急性大片肺栓塞時，需特別注意：收縮壓＞160mmHg，年長病人，因可能增加顱內出血的危險性，治療急性心肌梗塞時，需特別注意，心律不整，醣蛋白 (Glyco-protein) IIb/IIIa之接受體拮抗劑，合併使用GP IIb/IIIa 接受體拮抗劑antagonists會增加出血風險；血栓栓塞症，治療急性缺血性中風時需特別注意；必須由受過神經科訓練且有經驗的醫師治療。本藥只限於具適當評估及處理顱內出血設施的場所使用。除了前述之禁忌症外，在下列情況使用 ACTILYSE 治療急性缺血性中風可能會增加危險性，故應權衡治療之預期利益和危險性。嚴重神經機能缺損的病人（例如 NIHSS>22）。這類病人有較高之顱內出血危險性；電腦斷層掃描顯示病人早期有重大梗塞的徵兆 [例如大量水腫、腫塊效應或中線偏移(midline shift)] 對最近未曾使用抗凝血劑或 heparin 治療的病人，可在未獲得凝血參數前先開始 ACTILYSE 的治療，然而如治療前之 International Normalized Ratio (INR)>1.7 或 prothrombin time (PT)>15 秒或 aPTT過高，應立即停止 ACTILYSE 之輸注。出血：最常見的副作用是顱內出血(約 15%病人)；血壓監控：在給予治療時應監視病人的血壓達 24 小時；效益/風險比較差的特殊病人族群：本藥對曾發生中風或未被控制的糖尿病病人其治療效益會降低，其效益/風險比被認為較差，然而本藥對這些病人仍具正面價值：腦水腫：缺血性區域之再灌流 (reperfusion) 可能誘發梗塞區域之腦水腫。**【不良反應】**使用 ACTILYSE 最常發生的不良反應是因出血(≥1:100 to <1:10; 大出血; ≥1:10; 任何形式之出血)造成全身血球容積和/或血紅素降低。發生在任何部位或機體的出血，可能導致生命危急、永久性殘疾或死亡。一般障礙及給藥部位之狀況：> 1:10;注射部位出血、穿刺部位出血。研究調查之副作用：> 1:10;血壓下降。**【藥商】**台灣百靈佳股格翰股份有限公司 **【地址】**台北市中山區民生東路三段 2 號 12 樓 **【製造廠】**Boehringer Ingelheim Pharma GmbH & Co. KG, Birkendorfer Strasse 65, D–88397, Biberach an der Riss, Germany **【國外藥品許可證持有者】**Boehringer Ingelheim International GmbH **【僅限醫藥專業人員參考，處方藥物請參考衛生福利部核准仿單說明書】**

北市衛藥廣字第 113030068 號
PC-TW-106083-24-Mar-2025

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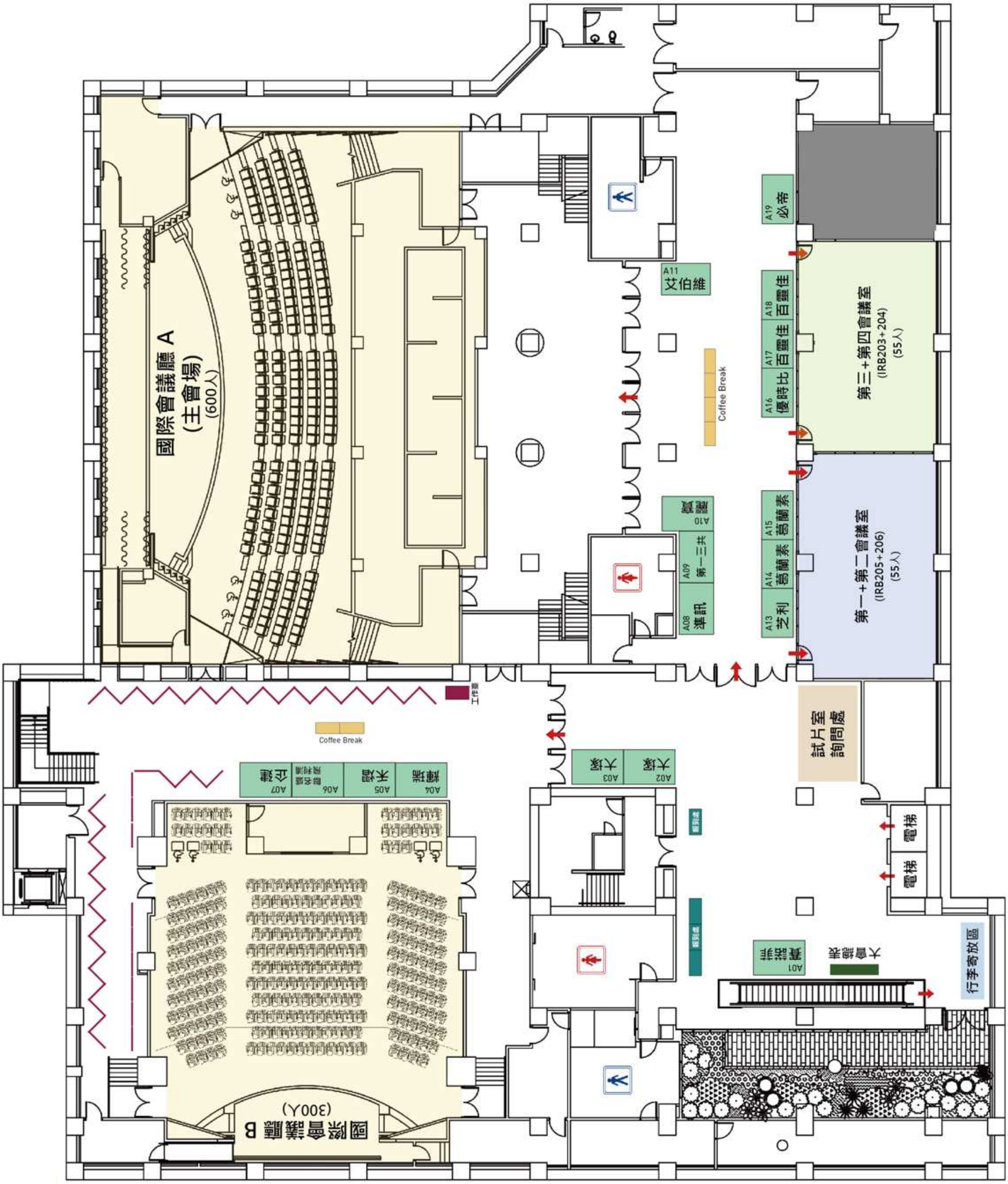

國際會議廳 A
(主會場)
(600人)
國際會議廳 B
(300人)
第三+第四會議室
(IRB203+204)
(55人)
第一+第二會議室
(IRB205+206)
(55人)
試片室
詢問處
電梯
電梯
行李寄放區
Coffee Break
Coffee Break
A19 必帝
A18 百靈佳
A17 百靈佳
A16 優時比
A15 葛蘭素
A14 葛蘭素
A11 艾伯維
A09 第一三共
A08 準訊
A04 輝瑞
A03 大塚
A02 大塚

智慧港灣領航腦中風新進展

Smart Harbor: Navigating Future Stroke Care

高雄醫學大學 國際學術研究大樓

會議議程總表

11/01 SAT.	B2 國際會議廳 A (主會場)	B2 國際會議廳 B	2F 201 創新教學教室	3F 301 階梯教室
08:30-10:00	Cerebral Small Vessel Disease	Post-Stroke Rehabilitation	Acute Stroke Workshop	Case Manager Certification
10:00-10:20	Break			
10:20-11:50	Neurointervention & Thrombectomy	AI Applications in Stroke	Meet the Professors	Case Manager Certification
11:50-13:00	Lunch			
13:10-14:00	Best Paper Award/ TAF-ESUS	Debate: Rescue Therapy for Failed MT		Case Manager Certification
14:00-15:00	Clinical Trial Platform	Management of Risk Factors		
15:00-15:20	Break			
15:20-16:00	Plenary 1: Prof. Jin-Moo Lee			Case Manager Certification
16:00-16:40	Plenary 2: Prof. Andrew Demchuk			
16:40-16:55	Prof. Chung Y. Hsu's Award Lecture			
16:55-17:10	Break			
17:10-18:10	Poster Tour			
18:30-21:00	Gala Dinner			

11/02 SUN.	B2 國際會議廳 A (主會場)	B2 國際會議廳 B	2F 201 創新教學教室	3F 301 階梯教室
08:30-09:50	Post-Stroke Cognitive Impairment	Heart-Brain Issues	Case Manager Workshop	
09:50-10:10	Break			
10:10-11:10	Integrated Regional Alliance	ICH & Neurosurgery		
11:10-11:50	Plenary 3: Prof. Hugh Markus			
11:50-12:10	General Assembly for TSS Members			
12:10-13:40	Lunch			
13:40-16:00	Stroke Game	Ultrasound Certification		

Keppra levetiracetam

GSK

Ready Steady Go!
Keep Winning With Keppra

Levetiracetam can be effective in epilepsy in a variety of special populations of patients with epilepsy, including BTE, PSE* and the elderly[1-3,5]

特殊作用機轉[4]

Keppra 在體內與 SV2A 結合

快速吸收[4]

口服後 1.3 小時達 C_{MAX}，生體可用率近 100%

不與已知常用藥物產生交互作用[4]

Keppra 不受食物影響，且吸收不受劑量影響

Keppra Safety Information :
Keppra適用於16歲以上病人之局部癲癇發作(併有或不併有次發性全身發作)之單獨治療。 4歲以上孩童或成人病人之局部癲癇發作(併有或不併有次發性全身發作)，12歲以上青少年與成人病人之肌抽躍性癲癇發作，以及12歲以上青少年與成人患有體質性泛發性癲癇的原發性泛發性強直陣攣發作之輔助治療。對主要成分 **levetiracetam** 敏感或對其他 **pyrrolidone** 衍生物或本藥其他賦形劑敏感者，請勿使用本藥。停藥-若服用 **levetiracetam** 後又必須要停藥時，建議分階段性減量。腎臟或肝臟功能不全-腎臟功能障礙病人使用時，必須調整劑量。**Levetiracetam** 可能會引起精神病症狀及行為異常，包括易怒及攻擊性。應監測病人是否有憂鬱症及/或自殺意念與行為的跡象，並應考慮給予適當的治療。很常見不良反應：鼻咽炎、嗜睡、頭痛。

BTE, brain tumor–related epilepsy; PSE, post-stroke epilepsy; SV2A, synaptic vesicle protein 2A; C_{max}, maximum concentration

References: 1. Kutlu G, et al. Epilepsy & Behavior. 2008 Oct 1:13(3):542-4. 2. Consoli D et al. Cerebrovascular diseases. 2012:34(4):282-9. 3. Vecht CJ, et al. Oncologist 2014:19(7):751-759. 4. Keppra full Prescribing Information, NCDS12+TFDA. 5. Werhahn, Konrad J et al. Seizure. 2011 May;20(4):305-11.

*Based on a prospective single-arm study in 34 patients 60 years or older on levetiracetam, and a multicenter randomised open-label study with 106 patients assigned to levetiracetam or carbamazepine. Limitations: studies included a small number of participants.

北市衛藥廣字第 114070222 號
僅供台灣專業醫護人員使用
PM-TW-LVT-ADVR-250001 | Date of preparation: Aug 2025

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Keppra Oral Solution 優開內服液劑

Keppra Solution for Infusion 優開濃縮輸注液

會議議程 11/01 SAT.

B2 國際會議廳 A (主會場)

Time	Topic	Speaker	Moderator
08:30-10:00	**Cerebral Small Vessel Disease**		
08:30-09:00	Mapping Genetic Cerebral Small Vessel Disease in Taiwan	陳志昊 臺大醫院	鍾芷萍 臺北榮民總醫院 巫錫霖 彰濱秀傳紀念醫院
09:00-09:30	Analyzing Cerebral Small Vessel Disease: the Application of Fixel-based Analysis in Diffusion MRI	張庭瑜 林口長庚紀念醫院	
09:30-10:00	Modeling Cerebral Small Vessel Disease in Animal System: A New Platform for Mechanistic and Therapeutic Investigation	李學德 教授 陽明交通大學	
10:00-10:20	Break		
10:20-11:50	**Neurointervention & Thrombectomy**		
10:20-10:40	Intracranial arterial disease (ICAD) Updates	黃彥筑 嘉義長庚紀念醫院	嚴寶勝 光田綜合醫院 謝鎮陽 台南新樓醫院
10:40-11:10	Neuroimaging in Medium Vessel Occlusion Stroke: Can We and Should We?	Adam A. Dmytriw Massachusetts General Hospital	
11:10-11:30	Thrombectomy in Patients with MeVO and/or Low NIHSS	王景益 聯新國際醫院	
11:30-11:50	Adjuvant Therapy after thrombectomy	黃虹瑜 中國醫藥大學附設醫院	
11:50-13:00	Lunch		
13:10-14:00	**Best Paper Award & TAF-ESUS (English)**		
13:10-13:25	TSS Best Paper (Clinical): Investigating undiagnosed Fabry disease in young adults with ischemic stroke: A multicenter cohort study	林伯昱 成功大學附設醫院	趙雅琴 高雄醫學大學附設醫院
13:25-13:40	TSS Best Paper (Translational): Impact of Age and Factor Xa Inhibitor Concentrations on Bleeding Risk in Patients with Atrial Fibrillation	林欣儀 臺大醫院	
13:40-14:00	TAF-ESUS Final Report	蔡力凱 臺大醫院	彭家勛 榮民總醫院桃園分院
14:00-15:00	**Clinical Trial Platform (English)**		
14:00-14:10	Clinical Stroke Trials in Taiwan: Insights, Outcomes, and Impact	湯頌君 臺大醫院	

Time	Topic	Speaker	Moderator
14:10-14:35	Australia's Stroke Trial Experience	**Henry Ma** Monash University, Australia	**李俊泰** 三軍總醫院
14:35-15:00	An Introduction to ACT-Global Platform	**Andrew Demchuk** University of Calgary, Canada	**鄭建興** 臺大醫院
15:00-15:20	Break		
15:20-16:55	**Plenary Session**		
15:20-16:00	Multiomic Signatures of Ischemic Brain Injury: From Mouse to Man	**Jin-Moo Lee** Washington University St. Louis	**胡朝榮** 臺北醫學大學醫學院
16:00-16:40	A Career Imaging Based Quest to Optimize Patient Selection for Acute Stroke treatments-much Learned but much yet to do	**Andrew Demchuk** University of Calgary, Canada	**林瑞泰** 高雄醫學大學附設醫院
16:40-16:55	A Sketch of My Clinical Stroke Research	**李　孟** 嘉義長庚紀念醫院	**李宗海** 林口長庚紀念醫院
17:10-18:10	**Poster Tour**		
	Poster Section 1	**林雅如** 馬偕紀念醫院 **陳志昊** 臺大醫院	
	Poster Section 2	**魏誠佑** 彰濱秀傳紀念醫院 **謝孟倉** 奇美醫院	

智慧港灣 領航腦中風新進展
Smart Harbor: Navigating Future Stroke Care

會議議程 11/01 SAT.

B2 國際會議廳 B

Time	Topic	Speaker	Moderator
08:30-10:00	**Post-Stroke Rehabilitation**		
08:30-08:50	Neurostimulation Therapy to Improve Post-Stroke Disability and Pain: Application and Evidence	王建智 臺中榮民總醫院	黃金安 臺中榮民總醫院 宋昇峯 嘉義基督教醫院
08:50-09:10	The Role of Post-Stroke Dysphagia Care in Stroke Management	陳俊鴻 高雄市立小港醫院	
09:10-09:30	Aggressive Intervention for Post-Stroke Spasticity	蘇慧真 成功大學附設醫院	
09:30-09:50	Digital Rehabilitation in Stroke Patients	梁蕙雯 臺大醫院	
09:50-10:20	Break		
10:20-11:40	**AI Applications in Stroke (Sponsor Talk)**		
10:20-10:40	The Future of AI Image Technology	劉致宏 Microsoft	魏怡嘉 基隆長庚紀念醫院 林秀芬 高雄醫學大學附設醫院
10:40-11:00	RAPID AI in Acute Stroke Care: From Nobel Concept to Clinical Reality	蔡元雄 嘉義長庚紀念醫院 / RAPID	
11:00-11:20	Assessing Validation and Predictive Performance of AI Software Tool for Dementia in a Memory Clinic Cohort in Singapore	Dohyun Kim Heuron / 芝利	
11:20-11:40	Heuron StroCare Suite™: Optimizing Stroke Care with AI in Regional Emergency Stroke Network	Dohyun Kim Heuron / 祐康	
11:40-13:00	Lunch		
13:10-14:00	**Debate: Rescue Therapy for Failed MT**		
	Rescue stent first	張育銘 成功大學附設醫院	劉濟弘 林口長庚紀念醫院 林浚仁 臺北榮民總醫院
	Medication first	周兆亮 馬偕紀念醫院	
14:00-15:00	**Management of Risk Factors**		
14:00-14:20	Dyslipidemia Treatment Updates, Including Novel Regimens (PCSK9i, siRNA)	黃彥筑 嘉義長庚紀念醫院	李　孟 嘉義長庚紀念醫院 陳右緯 聯新國際醫院
14:20-14:40	Dehydration and Enhanced Hydration in Acute Ischemic Stroke	林稜傑 嘉義長庚紀念醫院	
14:40-15:00	From Kidney Protection to Stroke Prevention: The Potential Role of SGLT2 Inhibitors	陳銳溢 奇美醫院	

2F 201 創新教學教室

Time	Topic	Speaker	Moderator
08:30-10:00	**Acute Stroke Workshop**		
	Case 1	劉兆禹 臺大醫院	Henry Ma Monash University, Australia 宋碧姍 成功大學附設醫院
	Case 2	陳一豪 臺北榮民總醫院	
	Case 3	蔡博宇 成功大學附設醫院	
10:00-10:20	Break		
10:20-11:50	**Meet the Professors: Roundtable Discussion**		
	Professor 1	Henry Ma Monash University, Australia	宋碧姍 成功大學附設醫院
	Professor 2	蔡力凱 臺大醫院	
	Professor 3	藍聖星 聖星診所	

3F 301 階梯教室 (個管師認證課程)

Time	Topic	Speaker	Moderator
09:00-09:30	中風病理與臨床症狀、評估量表	郭書帆 馬偕紀念醫院	葉馨喬 臺大醫院
09:30-10:00	神經影像判讀	林彥亨 臺大醫院	
10:00-10:20	**Break**		
10:20-10:50	缺血性腦中風與 TIA	葉馨喬 臺大醫院	陳柏霖 臺中榮民總醫院
10:50-11:20	出血性腦中風	蘇亦昌 雙和醫院	
11:20-11:50	初級與次級預防、危險因子管理	林馥郁 中國醫藥大學附設醫院	
11:50-13:00	**Lunch**		
13:10-13:30	雙向溝通	湯頌君 臺大醫院	
13:30-14:00	品質指標及改善、資料管理	林清煌 高雄榮民總醫院	林信光 台北慈濟醫院
14:00-14:30	衛教溝通技巧及策略、情緒支持與照護障礙處理	紀淑靜 奇美醫院	
14:30-15:00	出院準備及追蹤: 居家與長照資源、社會、社區、政策福利資源	劉子菁 台北榮民總醫院	
15:00-15:20	**Break**		
15:20-16:00	醫療品質與人文素養專題: 個管師對醫品病安該有的認知與態度	莊旺川 高雄榮民總醫院	林慧娟 奇美醫院
16:00-16:50	考試		

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11/01 SAT. Lunch Symposium-Sanofi

2F 201 創新教學教室

Time	Topic	Speaker	Moderator
12:00-12:20	The Benefits of Initiating DAPT in a Timely Manner for Patients with Minor Ischemic Stroke and TIA and Long-term Management	陳志昊 臺大醫院	陳右緯 聯新國際醫院
12:20-12:40	Striving for Improved Outcomes: LDL-C Reduction in Secondary Stroke Prevention	黃彥筑 嘉義長庚醫院	巫錫霖 彰濱秀傳醫院
12:40-13:00	Discussion	All	巫錫霖 彰濱秀傳醫院

11/01 SAT. Lunch Symposium-第一三共

3F 301 階梯教室

Time	Topic	Speaker	Moderator
12:00-12:05	Opening Remarks	鄭又禎 輔大醫院	
12:05-12:40	From Stroke to Recovery: Optimizing Integrated Care in AF Patients	王淳民 成大醫院	鄭又禎 輔大醫院
12:40-12:55	Question and Discussion	鄭又禎 輔大醫院 王淳民 成大醫院	
12:55-13:00	Closing Remarks	鄭又禎 輔大醫院	

11/01 SAT. Lunch Symposium-禮來

2F 205 創新教學教室

Time	Topic	Speaker	Moderator
12:00-12:05	Opening Remarks	盧韻如 中國附醫	陳睿正 中國附醫
12:05-12:50	Unlock the power: Kisunla can help the moment last longer		
12:50-13:00	Discussion and Closing		

11/01 SAT. Lunch Symposium-百靈佳

B2 第一+二會議室

Time	Topic	Speaker	Moderator
11:55-12:00	Opening	趙雅琴 高醫附醫	
12:00-12:20	腦中風治療準則之建議與運用	陳柏霖 台中榮總醫院	趙雅琴 高醫附醫
12:20-12:40	抗凝血劑用於腦中風初級預防及次級預防的臨床建議與運用	林宏昇 高雄長庚醫院	趙雅琴 高醫附醫
12:40-12:55	Panel Discussion	All Faculties	
12:55-13:00	Closing	趙雅琴 高醫附醫	

11/01 SAT. Lunch Symposium-GSK

B2 第三 + 四會議室

Time	Topic	Speaker	Moderator
12:00-12:05	Opening Remarks	范英琦 中山附醫	陳　龍 雙和醫院
12:05-12:50	Poststroke Seizures: New updates, and Optimal Treatment Options		
12:50-13:00	Discussion and Closing		

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ARISTOTLE 研究之非瓣膜性心房纖維顫動病人中的出血事件

	重大出血
ELIQUIS N=9088 n (每100 名病人/年)	327 (2.13)
Warfarin N=9052 n (每100 名病人/年)	462 (3.09)
風險比率 (95% CI)	0.69 (0.60,0.80)
P 值	< 0.0001

ARISTOTLE 研究之非瓣膜性心房纖維顫動病人中的主要療效相關結果(意圖治療分析)

	中風或全身性栓塞
ELIQUIS N=9120 n (%/年)	212 (1.27)
Warfarin N=9081 n (%/年)	265 (1.60)
風險比率 (95% CI)	0.79 (0.66,0.95)
P 值	0.01

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【特殊警語】(A) 提早停用 ELIQUIS 會升高發生血栓事件的風險:提早停用任何口服抗凝血劑,包括 ELIQUIS 在內,會提高血栓事件發生的風險。如果因病理性出血或療程完成以外的原因而停止使用 ELIQUIS 進行抗凝血治療時,則考慮使用另一種抗凝血劑。(B) 脊椎/硬膜外血腫:當施行椎管內麻醉 (脊椎/硬膜外麻醉) 或脊椎穿刺程序時,接受 ELIQUIS 治療的患者有發生硬膜外或脊椎血腫的風險,血腫可能導致長期或永久性癱瘓。在安排病患接受脊椎處置時應考慮此風險。可能增加硬膜外或脊椎血腫的風險包括:· 使用置入型硬膜外導管 · 併用影響止血作用的其他藥物 (例如非類固醇抗發炎藥 [NSAID]、血小板抑制劑、其他抗凝血劑) · 有創傷或反覆施予脊椎/硬膜外穿刺者 · 有脊椎畸形脊或脊椎手術病史 · 目前未知椎管內處置與ELIQUIS 給予的最佳時間間隔。密集監測患者是否出現神經損傷的徵兆和症狀。若發覺神經受損,必須給予緊急治療。對於接受抗凝血治療或即將接受抗凝血治療的患者,接受椎管內介入治療前應考量效益及風險。【學名】Apixaban【成分含量與劑型】ELIQUIS 膜衣錠為口服用錠劑,每錠含有 2.5 毫克或 5 毫克 apixaban。【適應症】1. 用於成人非瓣膜性心房纖維顫動患者且有以下至少一項危險因子者預防發生中風與全身性栓塞。危險因子包括:(1) 曾發生腦中風或短暫性腦缺血發作 (transient ischemic attack)、(2) 年齡大於或等於 75 歲、(3) 高血壓、(4) 糖尿病、及 (5) 有症狀之心衰竭 (NYHA ClassII)。2. 在成人中治療深靜脈血栓 (DVT) 與肺栓塞 (PE),以及預防深靜脈血栓與肺栓塞復發。【用法與用量】在非瓣膜性心房纖維顫動患者中預防中風和全身性栓塞:對大部份的患者而言,ELIQUIS 的建議劑量為每日兩次每次口服 5 毫克。對併有至少兩種下列特性的患者,ELIQUIS 的建議劑量為 2.5 毫克每日兩次:年齡 80 歲、體重 60 公斤、血清肌酸酐濃度 1.5 mg/dL。治療深靜脈血栓與肺栓塞:ELIQUIS 的建議劑量為每日兩次每次口服 10 毫克治療最初的 7 天。7 天之後的建議劑量則為每日兩次每次口服 5 毫克。預防深靜脈血栓與肺栓塞復發:經過至少 6 個月的深靜脈血栓或肺栓塞治療後,ELIQUIS 的建議劑量為每日兩次每次口服 2.5 毫克。無法吞服整顆錠劑的患者:可將 5 毫克及 2.5 毫克的 ELIQUIS 錠劑壓碎懸浮於水中、5% 的等張葡萄糖溶液 (D5W) 中、或蘋果汁中、或與蘋果醬混合,然後立即以口服方式使用。此外,可將 ELIQUIS 錠劑壓碎懸浮於 60 mL 水中或 5% 的等張葡萄糖溶液 (D5W) 中,然後立即經由鼻胃管 (NGT) 投予。腎功能不全:對輕度或中度腎功能不全的病人,並不須調整劑量。對於重度腎功能不全 (肌酸酐廓清率15-29 毫升／分鐘) 的患者,可透用下列建議:治療深靜脈血栓與肺栓塞以及預防深靜脈血栓與肺栓塞的復發 (VTE) 時,apixaban 應謹慎使用;在非瓣膜性心房纖維顫動 (NVAF) 患者中預防中風和全身性栓塞時,應調降患者的 apixaban 劑量為 2.5 毫克每日兩次。血清肌酸酐 1.5 mg/dL (133 micromole/L) 的患者若同時併有年齡 80 歲或體重 60 公斤,亦應調降apixaban 劑量為 2.5 毫克每日兩次。在肌酸酐廓清率 <15 毫升／分鐘或正在接受透析治療的病人中,目前並無臨床使用經驗,因此不建議使用 apixaban。【禁忌事項】有活動性病理性出血現象。對 ELIQUIS 會產生嚴重過敏反應 (如過敏性反應,anaphylatic reactions),或併有凝血異常及臨床相關出血風險的肝病。【警語及注意事項】提早停用後,發生血栓事件的風險升高。ELIQUIS 會升高出血風險,並可能引發嚴重甚至可能致命的出血。當施行椎管內麻醉 (脊椎／硬膜外麻醉) 或脊椎／硬膜外穿刺,接受抗血栓劑治療以預防血栓栓塞併發症的患者有發生硬膜外或脊椎血腫的風險,而可能導致長期或永久性癱瘓。目前尚未對裝有人工心臟瓣膜的患者研究過 ELIQUIS 的安全性與療效。因此,ELIQUIS 不建議用於這類患者。不建議以 ELIQUIS 治療代替傳統未分段肝素 (unfractionated heparin),作為血液動力學上呈現不穩定性或可能需接受溶栓治療或肺栓塞切除術的肺栓塞患者的初始治療。對於被診斷為三重陽性抗磷脂質症候群 (APS) 的病人,不建議使用包括 ELIQUIS 在內的直接口服抗凝血劑 (DOAC)。需要抗凝血治療之具有生育能力的女性應與其醫師討論懷孕規劃。有子宮異常出血的女性應評估口服抗凝血劑的已知臨床關著子宮出血 (可能需要婦科手術介入) 風險。【藥品交互作用】Apixaban 是 CYP3A4 與 P-gp 的作用受質。CYP3A4 與 P-gp 的抑制劑會升高 apixaban 的曝藥量,從而升高出血的風險。CYP3A4 與 P-gp 的誘導劑會降低 apixaban 的曝藥量,從而升高中風及其他血栓栓塞事件的風險。【過量】目前並無 ELIQUIS 的解毒劑。ELIQUIS 使用過量會升高發生出血的風險。在對照性臨床試驗中,曾對健康受試者連續 3 至 7 天口服投予劑量高達每日 50 毫克的 apixaban (連續 7 天每天投予兩次 25 毫克或連續 3 天每天投予一次 50毫克),結果並未造成任何具臨床關聯性的不良影響。對健康受試者於服用一劑 20 毫克 apixaban 2 及 6 小時後投予活性碳,分別會使 apixaban 的平均 AUC 降低 50% 及 27%。因此,在過量使用或意外服用 apixaban 時的處置中,投予活性碳可能會有幫助。【不良反應】下列臨床關著不良反應在處方資訊中的其他部分有更詳盡的討論:提早停用後,發生血栓事件的風險會升高、出血、脊椎／硬膜外麻醉或穿刺。【藥品保存注意事項】儲存於 30°C 以下。【參考資料】仿單版本 USPI 202103-3 (MOH20240205)。【文件核准日期】2025 年 2 月 12 日。

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會議議程 11/02 SUN.

B2 國際會議廳 A (主會場)

Time	Topic	Speaker	Moderator
08:30-09:50	**Post-Stroke Cognitive Impairment (PSCI)**		
08:30-08:55	Epidemiology and Pathophysiological Mechanisms of PSCI	劉虹余 臺北榮民總醫院	葉守正 澄清綜合醫院 陳嘉泓 雙和醫院
08:55-09:20	Clinical Manifestations, Screening, and Diagnostic Approaches for PSCI	李剛伯 高雄秀傳紀念醫院	
09:20-09:50	Therapeutic Strategies and Long-term Management of PSCI	黃立楷 雙和醫院	
09:50-10:10	Break		
10:10-11:10	**Integrated Regional Alliance**		
10:10-10:20	理事長引言	陳　龍 理事長 台灣腦中風學會	
10:20-10:30	東部醫療現況	陳育群 副院長 榮民醫院玉里分院	陳　龍 雙和醫院
10:30-10:45	南迴基金會偏鄉醫療分享	李靜蘭 董事長 財團法人南迴基金會	
10:45-11:10	討論及溝通	黃育文 組長 衛生福利部中央健康保險署	連立明 新光醫院
11:10-11:50	**Plenary Session**		
11:10-11:50	Cerebral Small Vessel Disease - What's New?	Hugh Markus University of Cambridge, UK	李怡慧 臺北榮民總醫院
11:50-12:10	**General Assembly for TSS Members**		
13:40-15:10	Stroke Game	張育銘 成功大學附設醫院 王淳民 成功大學附設醫院	

B2 國際會議廳 B

Time	Topic	Speaker	Moderator
08:30-09:50	**Heart-Brain Issue**		
08:30-08:55	Clinical Significance and Treatment for PFO and ESUS	蔡承恩 馬偕紀念醫院	林宏昇 高雄長庚紀念醫院 劉崇祥 中國醫藥大學附設醫院
08:55-09:20	Update of the Roles of LAAO and AF Ablation in Stroke Prevention	葉漢根 高雄長庚紀念醫院	
09:20-09:50	Optimization of DOAC Use for Patients After Ischemic and Hemorrhagic Stroke	謝孟倉 奇美醫院	
09:50-10:10	**Break**		
10:10-11:10	**ICH & Neurosurgery**		
10:10-10:40	Advances in AVM Surgery and Lessons from Clinical Experience	林俊甫 臺北榮民總醫院	龔瑞琛 高雄醫學大學附設醫院 紀乃方 臺北榮民總醫院
10:40-11:10	Endoscopic and Stereotactic Approaches for Intracerebral Hemorrhage Treatment	李政家 臺北榮民總醫院	
12:10-13:40	**Lunch**		
13:40-16:00	**Ultrasound Certification**		
13:40-14:10	穿顱超音波中線偏移與腦疝脫檢查	郭曄嶸 亞東紀念醫院	連立明 新光醫院
14:10-14:40	顱內血管血流基礎評估	葉馨喬 臺大醫院	
15:00-15:30	栓子連續偵測	陳廷耀 高雄長庚紀念醫院	傅維仁 馬偕紀念醫院
15:30-16:00	健保申報建議報告格式及注意事項	劉濟弘 林口長庚紀念醫院	

2F 201 創新教學教室 (個管師 Workshop)

Time	Topic	Speaker	Moderator
09:00-11:50	個管師 **Workshop**		
09:00-09:50	指標稽核注意事項與管制圖的基本概念	陳韋欣 高雄榮民總醫院	陳志弘 成功大學附設醫院
10:00-10:50	品質改善專案與 **PDCA** 的撰寫	吳婷婷 高雄榮民總醫院 陳韋欣 高雄榮民總醫院	
11:00-11:50	疾病認證的準備與臨床稽核	吳婷婷 高雄榮民總醫院	

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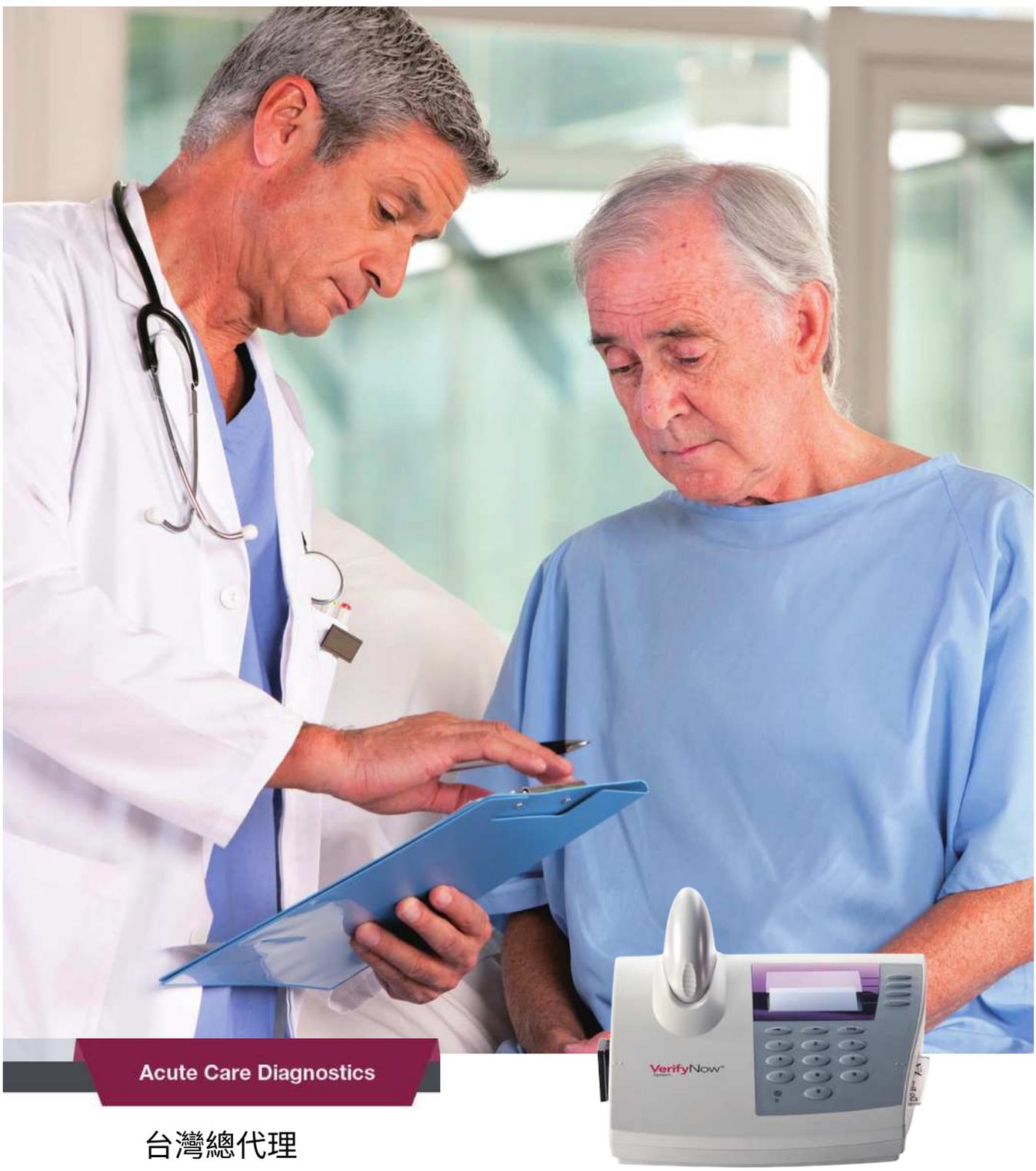

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11/02 SUN. Lunch Symposium-安沛

2F 201 創新教學教室

Time	Topic	Speaker	Moderator
12:00-12:05	Opening Remarks	林浚仁 台北榮總醫院 神經內科	陳俊鴻 高雄醫學大學附設醫院 神經內科
12:05-12:50	The Practice and Application of Acute Stroke Management among Tirofiban Tirofiban 於急性腦中風的實務與應用		
12:50-13:00	Discussion and Closing		

11/02 SUN. Lunch Symposium-衛采

B2 第三+四會議室

Time	Topic	Speaker	Moderator
12:10-12:15	Opening Remarks	洪煒斌 成大醫院	張瓊之 高雄長庚紀念醫院
12:15-13:00	Anti-amyloid Therapy in Alzheimer's Disease: Early-phase Real-world Insights in Taiwan		
13:00-13:10	Discussion and Closing		

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- 臨床獲益快速，Time to benefit 為 4.75 個月[12]
- 腎功能不全患者，無須調整劑量[13]

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References: **1.** Sever PS, et al. Lancet. 2003;361(9364):1149-1158. **2.** Colhoun HM, et al. Lancet. 2004;364(9435):685-696. **3.** Amarenco P, et al. N Engl J Med. 2006;355:549-559. **4.** Liu Z, et al. Int J Cardiol. 2016;222:22–26. **5.** Nissen SE, et al. JAMA. 2004;291(9):1071-1080. **6.** Schwartz GG, et al. JAMA. 2001;285(13):1711-1718. **7.** Kinlay S, et al. Circulation. 2003;108(13)1560-1566. **8.** Amarenco P, et al. Stroke. 2020;51:1231-1239. **9.** Pedersen TR, et al. JAMA. 2005;294(19):2437-2445. **10.** Cannon CP, et al. N Engl J Med. 2004;350(15):1495-1504. **11.** LaRosa JC, et al. N Engl J Med. 2005;352(14):1425-1435. **12.** Barter PJ, Waters DD. J Clin Lipidol. 2018 Jul-Aug;12(4):857-862. **13.** Lipitor® 立普妥® 仿單

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11/02 SUN. Lunch Symposium-AstraZeneca

B2 第一 + 二會議室

Time	Topic	Speaker	Moderator
12:00-12:05	Opening Remarks	劉濟弘 林口長庚	巫錫霖 彰化秀傳
12:05-12:50	Dyslipidemia Management in Stroke Patients and New Lipid Control Consensus in Taiwan		
12:50-13:00	Discussion and Closing		

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1. Giugliano RP et al. N Engl J Med. 2013 Nov 28;369 (22):2093-104
2. Okumura K et al. N Engl J Med. 2020 Oct 29;383 (18):1735-1745.
3. Lixiana® Package insert.

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2025 台灣神經學會年會口頭報告第一名(台北)
2024 台灣神經學會年會口頭報告第三名(台南)
2022 世界中風年會受邀講者(新加坡)
2021 亞太神經學會口頭報告金獎(台北)
2020 歐洲-世界中風年會最佳E-Poster得獎(線上)

Bibliography

身為腦中風專科神經科醫師，目前任職於台大醫院神經部，並身兼台灣腦中風學會副秘書長。我於2009年自台灣大學醫學系畢業，並於2020年完成台灣大學流行病學與預防醫學博士學位，亦曾於 2021-2023 年至加拿大卡加利大學擔任研究員，專注於腦部小血管病變的影像特徵分析。我的研究興趣主要包括急性中風的血栓溶解與取栓治療之風險因子、治療結果與品質改善相關研究，也參與台灣取栓登錄、台灣中風後失能研究等多中心計劃。我也致力於遺傳性腦部小血管病變的研究，特別是CADASIL，並參與建立台灣CADASIL病人研究團隊與資料庫。

台灣基因型腦小血管疾病綜覽
Mapping Genetic Cerebral Small Vessel Disease in Taiwan

ABSTRACT

Cerebral small vessel disease (SVD) is a major cause of stroke and vascular cognitive impairment, driven by both genetic and non-genetic factors. In Taiwan, the most common monogenic form of SVD is CADASIL, caused by variants in the *NOTCH3* gene. Among these, the *NOTCH3* p.R544C variant accounts for over 70% of local CADASIL cases. According to data from the Taiwan Biobank, approximately 0.9% of the Taiwanese population carries the *NOTCH3* p.R544C variant, although most carriers remain asymptomatic. Furthermore, nearly 3% of stroke patients carry this variant; in addition to typical ischemic strokes, a considerable proportion present with intracerebral hemorrhage, particularly those with hypertension. These findings underscore the importance of early identification, genetic testing, and aggressive control of vascular risk factors.

To systematically collect and follow SVD patients, we established the Taiwan Associated Genetic and Non-genetic Small Vessel Disease (TAG-SVD) cohort, which integrates longitudinal data on clinical manifestations, imaging markers, biomarkers, and genotype–phenotype correlations. Among more than 1,000 patients clinically suspected of SVD, one-fourth carried a monogenic variant—over 90% of which involved *NOTCH3*, followed by heterozygous *HTRA1* variants. Other mutations such as *TREX1*, *COL4A1*, and *GLA* were rare.

This presentation will review the phenotypic spectrum of genotypic SVD, with a particular focus on the clinical and imaging characteristics of *NOTCH3* and *HTRA1* variants prevalent in Taiwan, aiming to enhance clinicians' recognition of these locally relevant disorders.

腦小血管疾病（SVD）是中風與血管性認知障礙的重要原因，其成因包含遺傳與非遺傳因素。在台灣，最常見的單基因型SVD為*NOTCH3*基因變異引起的CADASIL，其中*NOTCH3* p.R544C變異位點佔了本土超過70%的CADASIL 個案。根據台灣人體生物資料庫的研究，全台灣人口中約有0.9%帶有*NOTCH3* p.R544C變異，然而絕大多數可能並未發病。此外，在腦中風的病人中，有近 3% 的中風病人帶有*NOTCH3* p.R544C變異，這些病人的臨床中風表現除了典型腦梗塞外，相當比例會發生腦出血，尤其合併高血壓者，顯示早期辨識、基因檢測、與及早控制危險因子的重要性。

為了系統性收集並追蹤SVD病患，我們建立了「台灣遺傳與非遺傳腦小血管疾病隊列研究（TAG-SVD）」，進行臨床表現、影像標誌、生物標誌與基因型—表現型的世代追蹤。在超過1000位臨床上懷疑SVD的病患中，發現有1/4帶有單基因變異，其中90%以上是*NOTCH3*變異，第二常見的是*HTRA1*雜合變異，其他如*TREX1*、*COL4A1*、*GLA*均很罕見。我們也比較了*HTRA1*雜合變異之SVD，其臨床病程、影像表現與常見的*NOTCH3* p.R544C之CADASIL十分相似。整體來說，帶有單基因變異者，相較於沒有帶有基因變異者，有較明顯的家族中風病史、以及較早出現的白質病變和具有特異性的顳葉前部或外囊的白質病變。

本演講將綜述台灣遺傳性SVD的基因分布，闡述創始突變與其他基因型的臨床差異，TAG-SVD計畫將進一步釐清基因型SVD的自然病程、長期預後與治療策略，並為未來臨床介入試驗奠定基礎。

1101 B2A_0900-0930

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2. CMRP: CMRPG3N0061: Establishing advanced-imaging-assisted models to predict the prognosis of stroke patients with intracranial artery stenosis.

Analyzing Cerebral Small Vessel Disease: The Application of Fixel-based Analysis in Diffusion MRI

ABSTRACT

Neuroinflammation is increasingly recognized as a key contributor to post-stroke neuronal injury. 18F-THK-5351 tau PET imaging has been used to detect neuroinflammation after cerebral ischemia, while fixel-based analysis (FBA) of diffusion MRI (dMRI) enables fiber-specific assessment of white matter microstructural integrity. In this talk, I will briefly introduce the applications of 18F-THK-5351 tau PET and FBA-dMRI in identifying post-stroke neuronal changes. Additionally, our recent study combined 18F-THK-5351 PET and FBA-dMRI to investigate the relationship between neuroinflammation and white matter alterations following ischemic stroke. We enrolled patients with acute ischemic stroke and age-matched healthy controls. They underwent baseline MRI, and stroke patients were scanned at three months post-stroke as well. PET standardized uptake value ratios (SUVRs) were derived, and FBA metrics included fiber density (FD), fiber cross-section (FC), and combined FD/FC (FDC). Clinical severity was assessed using infarct volume, NIHSS, BI, and mRS. Stroke patients showed significant reductions in FD, FC, and FDC within the corticospinal tract compared with controls. 18F-THK-5351 uptake was highest at the ischemia core, overlapping regions of reduced FBA metrics. Meanwhile, lower FBA values were correlated with worse clinical outcomes. From previous literature and our study, the combined use of 18F-THK-5351 PET and FBA-dMRI revealed spatially consistent patterns of neuroinflammation and fiber-specific degeneration after stroke. These findings highlight the interplay between neuroinflammation and white matter integrity and may provide new insights into mechanisms of post-stroke functional impairment.

1101 B2A_0930-1000

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2. The Neuroprotective and Injured Mechanisms in Neurodegenerative Diseases
3. Adaptive Medicine in Neurovascular Disease
4. Translational Medicine of Tumor Specific-organs Metastasis

Modeling Cerebral Small Vessel Disease in Animal System: A New Platform for Mechanistic and Therapeutic Investigation

ABSTRACT

Cerebral small vessel disease (CSVD) is a major cause of cognitive deficits and neurological disability in aging populations, yet the lack of representative animal models has restricted advances in understanding its mechanisms and developing therapies. In this research, we have established a novel and clinically relevant model for age-related sporadic non-amyloid CSVD by applying the adenine-induced chronic kidney disease (CKD) protocol to both young and aged mice. CKD mice exhibit sustained renal dysfunction, hypertension, and elevated uremic toxins, akin to the major risk factors for human CSVD. Multi-modal analysis demonstrates striking neurovascular pathology: reduced microvascular density, accelerated vascular senescence, blood-brain barrier disruption, inflammation, and collagen IV deposition, all of which intensify with aging. In the brain, these changes result in atrophy, white matter abnormalities, synaptic loss, and elevated proinflammatory cytokines. Functional assessments reveal that CKD mice develop memory impairment and reduced locomotor activity, recapitulating key aspects of CSVD clinical symptoms. Mechanistic in vitro experiments further show that indoxyl sulfate, a representative uremic toxin, reduces endothelial cell viability and increases permeability. Together, this platform provides a robust, reproducible system to investigate the multifaceted mechanisms underlying CSVD development and progression, and establishes a foundation for evaluating candidate therapeutics targeting neurovascular dysfunction and cognitive decline in CSVD.

1101 B2A_1020-1040

CURRICULUM VITAE

黃彥筑 / Yen-Chu Huang

CURRENT PROFESSIONAL POSITION:

Jul. 2023 – Present	Chief, Department of Neurology, CGMH at Jiayi
Jun. 2022 – Present	Chief, Stroke Center, CGMH at Jiayi
Jan. 2023 – Present	Associate Professor, School of Medicine, Chang Gung University.

Education

Sep. 1996 – Jun. 2003	MD, Taipei Medical University

PROFESSIONAL EXPERIENCE:

Past:

Jul. 2014 – Jun. 2020	Chief, Department of Cerebrovascular Diseases & General Neurology.
Aug. 2015 – Dec. 2022	Adjunct Assistant Professor, Chang Gung University.
Jul. 2009 – Present	Attending Physician, Department of Neurology, CGMH at Chiayi.
Jul. 2008 –Jun. 2009	Fellowship, Department of Neurology, CGMH at at Chiayi.
Jul. 2004 –Jun. 2008	Residency, Neurology, CGMH at Linkou.

RECENT RESEARCH PROJECTS:

1. Deep Learning Assisted Neuro-Imaging Analysis for acute stroke
2. Investigating the feasibility of salivary conductivity as a tool for assessing fluid status in acute ischemic stroke

PATENT:

Taiwan Utility Model Patent M673171 — System for Automatic MRI Image Classification to Detect Atrial Fibrillation–Related Stroke

顱內動脈粥狀硬化疾病（ICAD）更新
Intracranial atherosclerotic disease (ICAD) Updates

ABSTRACT

ICAD remains a major global cause of ischemic stroke and early recurrence, disproportionately affecting Asian populations and the posterior circulation. While aggressive medical management (AMM)—lipid lowering, blood-pressure control, lifestyle therapy, and short-course dual antiplatelet therapy (DAPT)—is foundational, recent work refines who is at highest residual risk and how to intervene safely when AMM is insufficient. Risk now pivots on mechanism/phenotype rather than percent stenosis alone. High-risk patterns include cortical border-zone infarction with impaired collaterals, quantitative MRA–defined low distal flow (especially vertebrobasilar), and "hot" plaques on high-resolution vessel-wall MRI (vwMRI) characterized by enhancement, T1 hyperintensity, and positive remodeling.

Legacy randomized trials—WASID, SAMMPRIS, VISSIT—established antiplatelet-based AMM and discouraged routine intracranial stenting. Contemporary data confirm that on-label stenting can be safe (WEAVE/WOVEN) yet not superior to AMM overall (CASSISS). Since 2022, procedural advances favor "less metal." The NOVA randomized trial showed sirolimus-eluting stents reduce in-stent restenosis and late ischemia versus bare-metal scaffolds. BASIS demonstrated that submaximal balloon angioplasty plus AMM improves 1-year outcomes over AMM alone (primary composite ~4.4% vs 13.5%), with modest early risk offset by substantial late protection. A randomized drug-coated balloon (AcoArt) study further reduced short-term restenosis versus bare-metal stents. Surgery remains limited: direct EC–IC bypass did not show benefit in atherosclerotic disease (CMOSS); indirect EDAS is investigational for hypoperfusion-dominant phenotypes.

In the acute setting, ICAD-related large-vessel occlusion (ICAD-LVO) accounts for ~10–30% of LVOs and often shows truncal-type occlusion, residual severe stenosis, and early re-occlusion after first pass. Randomized data support endovascular therapy for basilar artery occlusion; durable reperfusion frequently requires rescue angioplasty ± stenting, with selective glycoprotein IIb/IIIa use to treat re-occlusion or protect a fresh stent.

A practical 2025 algorithm integrates mechanism-based imaging (DWI, vwMRI, flow/perfusion) to classify risk, applies AMM to all, and offers endovascular therapy selectively—balloon angioplasty first; drug-eluting scaffolds when needed; drug-coated balloons to curb restenosis—within experienced centers. The ongoing CAPTIVA trial may redefine antithrombotic strategy in high-risk symptomatic ICAD.

1101 B2A_1040-1110

CURRICULUM VITAE

Dmytriw, Adam Andrew

EDUCATION/TRAINING

06/09 BSc, Biology (Hons.), Toronto Met. University, Canada
08/10 MSc, Integrated Immunology, University of Oxford, UK
06/14 MD, Medicine, Dalhousie University, Canada
05/20 MPH, Epidemiology, Harvard University, USA
06/20 FRCPC, Diagnostic Radiology, University of Toronto, Canada
06/21 Fellow, Neuroradiology & Intervention, Brigham & Women's Hospital, USA
06/22 Fellow, Interventional Neuroradiology & Endovascular Neurosurgery, Massachusetts General Hospital, USA

A. PERSONAL STATEMENT

I am a Canadian Royal College, United Kingdom Medical Council, and American Board-Certified radiologist, with expertise in immunology and epidemiology and a passion for advanced imaging & intervention. Having completed an MSc, MPH and three research fellowships, I currently lead multiple international cerebrovascular consortia with a career total of $2.0M in funding.

I underwent a rotating internship and proceeded to residency multisystem diagnostic and interventional radiology training at the University of Toronto. After residency, I proceeded to a fellowship spanning Brigham & Women's, Boston Children's, Dana Farber Cancer Center and Mass Eye and Ear Infirmary with fellow-led case conferences and certification in advanced imaging such as fMRI, DTI, MEG, VWI, brachial neurography, fetal MR, and spectroscopy (15,000 cases).

I proceeded to another fellowship at Massachusetts General Hospital with a focus on aneurysms, stroke, DAVF, AVM, MMA and tumor embolization, spinal vascular pathology, and pediatrics vascular disease. I also underwent instruction in spine and neck biopsy/cryoablation, vertebral augmentation, pain ablation, MRgFUS, LITT and CSF leak procedures (2,500 cases).

B. POSITIONS, EXPERIENCE, APPOINTMENTS & HONORS

Board Certifications

2024 Full Registration, General Council of Medical Education and Registration of the United Kingdom
2021 Diplomate of the American Board of Radiology, American Board of Radiology
2020 Fellow of the Royal College of Physicians and Surgeons, Royal College of Canada

(Diagnostic Radiology)

2014 Licentiate of the Medical Council of Canada, Medical Council of Canada

Appointments

2025-present Interventional Neuroradiologist, Oxford University Hospitals, NHS Foundation Trust, Oxford, UK

2024-present Assistant Professor, Faculty of Medicine, Toronto Metropolitan University, Toronto, ON

2022-present Neuroendovascular Program, Massachusetts General Hospital, Harvard Medical School, Boston, MA

2022-present Physician Scientist RADIS Lab, Neurovascular Centre, St Michael's Hospital, Unity Health Toronto, Toronto ON

Independently Proficient Procedures

Neurointerventional: aneurysm treatment (coiling, flow diversion, flow disruption), stroke thrombectomy, DAVF, AVM, MMA and tumor embolization, spinal vascular and pediatrics vascular disease embolization. Spine and neck biopsy/cryoablation, vertebral augmentation, pain ablation, CSF leak procedures/blood patching, intrathecal drug delivery

Neuroradiology: CT, MRI, fMRI, DTI, MEG, VWI, brachial neurography, fetal MR, CSF flow studies, phase-contrast MR, ASL/pcASL, advanced spectroscopy, PET/MR

General Radiology: GI and urologic fluoroscopy, abdominal/chest/MSK radiography, abdominopelvic/OB/breast/MSK ultrasound, arterial and venous duplex, abdominal/chest/neurologic/cardiac CT, abdominal/chest/neurologic/cardiac MR, thyroid/parathyroid/cardiac/GI/urologic diagnostic and therapeutic nuclear medicine, mammography, PET/CT

General Interventional: PICC insertion, abscess drainage, abdominal/chest/breast/MSK biopsy, peripheral arterial angiography, cholangiography, nerve block, nerve ablation

Supervised Procedures

Laser interstitial intracranial ablation, MR-guided focused ultrasound, peripheral vascular stenting, peripheral vascular embolization, abdominal/chest ablation, intrathecal pain pump insertion

Neuroimaging in Medium Vessel Occlusion Stroke: Can We and Should We?

ABSTRACT

Medium vessel occlusion (MeVO) contributes significantly to acute ischemic stroke (AIS). The hypoperfusion intensity ratio (HIR), reflecting collateral circulation via the ratio of Tmax >10s to Tmax >6s volumes, predicts infarct progression in large-vessel occlusions but is unstudied in MeVOs. In this multicenter, multinational retrospective study, we evaluated consecutive patients with MeVO who underwent mechanical thrombectomy with or without intravenous thrombolysis. Inclusion required available follow-up imaging and pretreatment CT perfusion. Follow-up infarct volume (FIV) was measured on CT or MRI 12-36 h post-procedure. Univariable and multivariable linear regression models were used to identify predictors of FIV, with HIR as the primary variable of interest. Among 147 patients (median age 75 years, 57% female), univariable analysis showed HIR was significantly associated with larger FIV (β = 80 mL; $p < 0.001$). After adjusting for confounders, HIR remained independently associated with FIV (β = 40 mL; $p < 0.001$). Tmax >10 s showed the strongest correlation with FIV ($r = 0.56$; $p < 0.001$). These findings suggest that higher HIR correlates with larger infarct volumes, underscoring the prognostic role of collateral failure in MeVO and highlighting HIR as a potential imaging marker to guide treatment and outcome prediction.

1101 B2A_1110-1130

CURRICULUM VITAE

王景益 / Jim Wang

學歷：
台大醫學系畢業

現職：
聯新國際醫院神經內科主治醫師
腦中風取栓醫師2021~

經歷：
台大醫院住院醫師2007~2011
聯新國際醫院2011~

實證醫學中心主任2015/7/1~2020/6/30
品管處副處長2014/10/1~2018
資訊處副處長2018~2020
雙和醫院取栓訓練2018.10-2019.9
亞東醫院INR訓練2025.3~

Thrombectomy in Patients with MeVO and/or Low NIHSS

ABSTRACT

Acute stroke treatment had a great advance after the big 5 thrombectomy trials in 2015. Stroke in later time window and posterior circulation also benefit from endovascular thrombectomy (EVT) in the past 10 years. Recent evidence regarding EVT in medium-sized vessel occlusion (MeVO) is emerging, with several randomized trials published this year clarifying limitation of acute endovascular treatment. In patients with low NIHSS (usually <6), the benefit of EVT is still controversial. In this talk, I will brief 1. definition of MeVO 2. current evidence of thrombectomy on MeVO 3. shall we perform EVT in patients with low NIHSS 4. case and skill sharing of MeVO.

1101 B2A_1130-1150

CURRICULUM VITAE

黃虹瑜 / Hung-Yu Huang

CURRENT PROFESSIONAL POSITION:

中國醫藥大學附設醫院神經部主治醫師

Dept. of Neurology, China Medical University Hospital, Taiwan

EDUCATION:

起-始　中國醫藥大學中醫學系雙主修醫學士

Bachelor of Chinese Medicine & Medicine, China Medical University Hospital, Taiwan

PROFESSIONAL EXPERIENCE:

2019-　中國醫藥大學附設醫院 神經部 主治醫師

Attending Physician, China Medical University Hospital, Taichung, Taiwan

RECENT RESEARCH PROJECTS:

黃醫師2011年畢業於中國醫藥大學中醫學系（雙主修），在中國醫藥大學附設醫院接受完整神經科訓練，於2016年拿到神經專科，並於2018年拿到顱內動脈血栓去除術認證，並於2019年開始執行腦中風急性取栓治療，並於2020年拿到完整血管內治療認證。黃醫師致力於急性腦中風治療，並積極參加國際臨床試驗，為台灣女性神經科醫師中首位進行顱內血管內治療（經動脈血栓去除術與支架置放）的醫師。並參與了腦中風學會2019-2024的腦中風治療指引的編寫，並且擔任2022-2026腦中風學會之理事。

Adjuvant Therapy after thrombectomyss

ABSTRACT

The combination of intravenous thrombolysis (IVT) and endovascular thrombectomy (EVT) has been extensively studied to optimize outcomes in acute ischemic stroke (AIS) caused by large vessel occlusion (LVO). Bridging therapy (BT), which administers IV thrombolytics before EVT, has been compared with direct EVT (DT) alone in multiple randomized controlled trials and meta-analyses. Evidence suggests that while BT does not consistently achieve non-inferiority over DT in functional outcomes measured by modified Rankin Scale (mRS 0-2), early administration of IV tissue plasminogen activator (tPA) within 2 hours and 28 minutes from symptom onset improves reperfusion rates (TICI 2b/3) without significantly increasing symptomatic intracranial hemorrhage (sICH). Tenecteplase (TNK) shows promise as a thrombolytic agent due to faster groin puncture times and better early reperfusion compared to alteplase (ALT).

Post-EVT intra-arterial thrombolysis with alteplase or tenecteplase addresses incomplete microcirculatory reperfusion, a key factor limiting functional recovery despite successful mechanical recanalization. Recent trials demonstrate that intra-arterial thrombolytics administered within 24 hours after EVT improve functional independence (mRS 0-1) without increasing hemorrhagic complications, especially in patients without prior IV thrombolysis.

Additionally, intravenous tirofiban, a glycoprotein IIb/IIIa inhibitor, used before or during EVT in non-cardioembolic stroke patients reduces early neurological deterioration and improves outcomes without raising bleeding risk. Protocols typically involve an initial IV bolus followed by continuous infusion for up to 72 hours.

In summary, combining thrombolysis and tirofiban with EVT enhances reperfusion quality and functional outcomes in AIS patients. Optimal timing, patient selection, and procedural strategies are critical to maximize benefits while minimizing risks. Ongoing research continues to refine these combined therapeutic approaches to improve stroke care.

年輕缺血性中風患者中潛在未診斷的法布瑞氏症：多中心隊列研究

林伯昱[1]、林典佑[1]、宋昇峯[2]、傅維仁[3]、許立奇[4]、湯頌君[5]、黃彥筑[6]、謝鎮陽[7]、許永居[2]、吳仁贏[1]、謝承錡[1]、宋碧姍[1]、陳志弘[1]
[1]成大醫院
[2]嘉義基督教醫院
[3]馬偕紀念醫院
[4]台北榮民總醫院
[5]臺大醫院
[6]嘉義長庚醫院
[7]台南新樓醫院

Investigating undiagnosed Fabry disease in young adults with ischemic stroke: A multicenter cohort study

Po-Yu Lin[1], Tien-Yu Lin[1], Sheng-Feng Sung[2], Helen L. Po[3], Li-Chi Hsu[4], Sung-Chun Tang[5], Yen-Chu Huang[6], Cheng-Yang Hsieh[7], Yung-Chu Hsu[2], Ren-Ying Wu[1], Cheng-Chi Hsieh[1], Pi-Shan Sung[1], Chih-Hung Chen[1]
[1]National Cheng Kung University Hospital, Tainan, Taiwan.
[2]Chiayi Christian Hospital, Chiayi, Taiwan.
[3]MacKav Memorial Hospital, Taiwan.
[4]Taipei Veterans General Hospital, Taipei, Taiwan.
[5]National Taiwan University Hospital, Taipei, Taiwan.
[6]Chiayi Chang Gung Memorial Hospital, Chiayi, Taiwan.
[7]Sin-lâu Hospital, Tainan, Taiwan.

Background: The global prevalence of ischemic stroke in young adults is increasing, leading to a significant social impact. Fabry disease is a recognized cause of ischemic stroke in young patients, and although disease-modifying treatments are available, further evidence is needed to confirm their effectiveness in reducing the incidence of ischemic strokes.
Aims: This study aimed to identify undiagnosed Fabry disease in young adult patients with ischemic stroke in a Taiwanese cohort.
Methods: This multicenter, prospective cohort study enrolled patients aged 20–55 years who had experienced an ischemic stroke or transient ischemic attack (TIA) within 10 days, from 1 January 2016 to 31 December 2020. Screening for Fabry disease was performed using a dry blood test to measure α-galactosidase activity in male patients and blood globotriaosylsphingosine (lysoGb3) levels in female patients. For patients with positive screen results, genetic diagnosis of Fabry disease was pursued through Sanger sequencing of the GLAgene, overing all exons and a segment of intron 4.
Results: A total of 977 patients (659 male, 68%) were enrolled from seven hospitals across Taiwan. Four patients (0.4%, all male) had positive screening results, and two patients (0.2%) were genetically diagnosed with Fabry disease. Case 1 had the GLA c.658C>T mutation and experienced ischemic stroke in the bilateral occipital regions. Case 2 had the GLA c.640-801G>A mutation and experienced an ischemic stroke in the left superficial watershed area.
Conclusion: The prevalence of undiagnosed Fabry disease in this cohort of Taiwanese young adults with ischemic stroke or TIA was 0.3% among the young male population. Understanding the prevalence of undiagnosed Fabry disease in young adults with ischemic stroke could help shape future Fabry disease screening policies.

年齡對心房纖維顫動病人活化第十因子抑制劑濃度及出血風險的影響

林欣儀[1, 2]、劉言彬[3]、賀立婷[3]、郭錦樺[2]、彭鈺峯[2]、黃織芬[1, 2, 4]、湯頌君[5,]、鄭建興[5]*
[1]台大醫院藥劑部
[2]台灣大學藥學系
[3]台大醫院內科部心血管中心
[4]台灣大學臨床藥學研究所
[5]台大醫院神經部腦中風中心

Impact of Age and Factor Xa Inhibitor Concentrations on Bleeding Risk in Patients with Atrial Fibrillation

Shin-Yi Lin[1, 2], Yen-Bing Liu[3], Li-Ting Ho[3], Ching-Hua Kuo[2], Yu-Fong Peng[2], Chih-Fen Huang[1, 2, 4], Sung-Chun Tang[5,], Jiann-Shing Jeng[5]*
[1]Department of Pharmacy, National Taiwan University Hospital, Taipei, Taiwan.
[2]School of Pharmacy, National Taiwan University, Taipei, Taiwan.
[3]Division of Cardiovascular Center, Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan.
[4]Graduate Institute of Clinical Pharmacy, National Tawain University, Taipei, Taiwan.
[5]Stroke Center and Department of Neurology, National Taiwan University Hospital, Taipei, Taiwan.

This study aimed to analyze differences in the exposure-response relationship for factor Xa inhibitors (FXaI) between patients aged ≥80 and <80 years. Patients with atrial fibrillation (AF) taking rivaroxaban, apixaban, or edoxaban were enrolled, and a single steady-state trough concentration was measured. FXaI concentrations were compared with the expected range reported in clinical trials to define high or low drug levels. The primary outcome was major bleeding, and the secondary outcome was ischemic stroke or transient ischemic attack (IS/TIA). From 2016 to 2023, 1,037 patients aged from 30 to 105 years were enrolled (average, 75.4±10.0 years; 33.8% were aged ≥80 years). During a median follow-up of 2.35 years, 48 major bleeding events and 32 IS/TIA events were observed. Although drug concentrations were similar between the two age groups, those aged ≥80years with high FXaI levels experienced a greater increase in major bleeding risk compared to those aged <80years with high levels (aHR 6.47 [2.07, 20.28] vs. 3.45 [1.15, 10.30]). Additionally, patients aged ≥80years without elevated FXaI levels also had a higher risk of major bleeding compared to those aged <80 years without elevated levels (aHR 2.39 [1.20, 4.76]). While low FXaI concentrations were associated with IS/TIA, the risk was not significantly different across age groups. In conclusion, despite similar FXaI concentrations, patients aged ≥80 years have a higher baseline risk of major bleeding and experience a greater increase in bleeding risk at high drug levels compared to those aged <80 years.

1101 B2A_1340-1400

CURRICULUM VITAE

蔡力凱 / Li-Kai Tsai, MD, PhD

Position & Organization:
Professor, National Taiwan University (NTU)

Education:
MD. Medicine, National Taiwan University, 1992-1999
PhD. Clinical Medicine, National Taiwan University, 2003-2010

Work Experience:

2000-2004	Residency, Neurology, NTU hospital (NUTH)
2004-2006	Fellow, Medical Genetics, NTUH
2006-present	Attending Physician, Department of Neurology, NTUH
2011-2013	Director, Department of Neurology, NTUH Yunlin branch
2021-2023	Director, Department of Neurology, NTUH Hsinchu branch
2023-present	Professor, Department of Neurology, NTU

Major Field:
Stroke, Motor Neuron Disease, Clinical Neurology, Neuroscience
Stroke: Stroke intensive care, intracerebral hemorrhage, small vessel disease, acute treatment for cerebral infarct, stem cell therapy
Motor neuron disease: translation research in spinal muscular atrophy and amyotrophic lateral sclerosis

Short Bio:
Dr. Li-Kai Tsai was born in Tainan, Taiwan. He graduated from National Taiwan University (NTU) with MD degree in 1999 and was trained as a Neurologist in the NTU Hospital. He got the license of Neurologist in 2003 and had a short-term research program about stem cell therapy in National Institutes of Health, United States in 2009-2010. He got a PhD degree in 2010 from the Institute of Clinical Medicine, NTU. He is now a Professor at NTU. His interest is in research of motor neuron diseases and cerebrovascular diseases. Dr. Tsai has authored more than 190 peer-reviewed papers on his research work, which has led to major publications in *Brain, Annals of Neurology, Neurology, Stroke, Journal of Stroke, Journal of Cachexia, Sarcopenia & Muscle*, and *Brain Communication*, etc. He is now the Secretary General of Taiwan Neurological Society, an Editor-in-Chief of the *Formosan Journal of Stroke* and an Executive Editor of the *Acta Neurological Taiwanica*.

T-AFESUS Final Report

ABSTRACT

Embolic stroke of undetermined source (ESUS) consists about one-fifth of the ischemic stroke. Taiwan-Atrial Fibrillation in ESUS study (T-AFESUS) is a multi-center open-label clinical trial, which enrolled patients (>50-year-old) having acute ischemic stroke within 10 days after stroke onset with a diagnosis of nearly ESUS (well fit with ESUS criteria except completing 24-hour Holter study), confirmed by brain MRI, ECG, and echocardiography with MRA, carotid duplex, and/or transcranial color-coded sonography. Each patient received simultaneous 24-hour Holter ECG and 14-day EZYPRO cardiac monitoring. The primary outcome is the AF (at least 30 seconds) detection rate using EZYPRO. If AF was detected by either Holter or EZYPRO, patients will receive regular direct oral anticoagulants instead of antiplatelet agents. All patients were under follow-up for 6 months to see the risk of recurrent ischemic stroke or transient ischemic attack (TIA). From March 2022 to April 2025, we enrolled 456 patients with nearly ESUS from 18 hospitals in Taiwan. The AF detection rates were 5.1% and 10.2% using 24-hour Holter and 14-day EZEPRO, respectively. In current available data (n=439), patients who were detected to have AF tend to be older, having higher NIHSS, and less likely to have diabetes mellitus in multivariable analysis. In post-stroke 6 months, the percentages of patients having recurrent ischemic stroke or TIA were 2.6% and 0% for those without and with detected AF, respectively. Regarding safety outcome, 100% and 98.2% of patients had no or only mild skin irritative complications. In conclusion, the AF detection rates were higher using 14-day EZYPRO than 24-hour Holter by about 2 times for patients with acute nearly ESUS. Future results of T-AFESUS biomarker sub-study focusing on plasma and genetic markers are anticipated.

1101 B2A_1400-1410

CURRICULUM VITAE

湯頌君 / Sung-Chun Tang

Educational background & professional experience (in sequence of the latest year):

1992-1999 M.D. College of Medicine, National Taiwan University

2008-2013 P.H.D. College of Medicine, Graduate Institute of Clinical Medicine, National Taiwan University

Research Interests:

Major

1. Acute Stroke
2. Cerebral Small Vessel Disease
3. Basic Stroke Research

Publications:

https://scholar.google.com.au/citations?user=hBvyMoAAAAAJ&hl=en

Sung-Chun Tang is currently a Professor in the Department of Neurology, College of Medicine, National Taiwan University, and the Director of the Stroke Center at National Taiwan University Hospital. He earned his M.D. from the College of Medicine and his h.D. from the Graduate Institute of Clinical Medicine at National Taiwan University.
Dr. Tang received a two-year research scholarship to pursue basic stroke research in the laboratory of Professor Mark P. Mattson at the National Institute on Aging, NIH. His research interests include genetic and sporadic cerebral small vessel diseases, acute stroke management, NOAC concentration monitoring for stroke prevention, and outcome prediction. His work has been published in highly cited and competitive international journals.
He currently serves as the Secretary General of the Taiwan Stroke Society.

Clinical trials in Taiwan: insights, outcomes and impact

ABSTRACT

Taiwan has made significant progress in stroke clinical research over the past decades. Under the visionary leadership of the late Dr. Chung-Yi Hsu, former President of the Taiwan Stroke Society, the Taiwan Stroke Clinical Trial Consortium was established to promote multicenter collaboration and enhance research quality. This foundation enabled participation in diverse studies, including industry-sponsored trials, NIH projects, and landmark investigator-initiated trials such as EXTEND and TASTE. The creation of the Taiwan Stroke Registry has also generated invaluable real-world data that continues to guide national stroke care and policy.

Building on this legacy, the Taiwan Stroke Society recently launched the TREAT-AIS (EVT) registry and is developing the TSS Clinical Trial Network to integrate academic, clinical, and translational efforts across institutions. These initiatives highlight Taiwan's expanding role in global stroke research, dedicated to advancing international collaboration and producing locally relevant evidence to improve patient outcomes.

1101 B2A_1410-1435

CURRICULUM VITAE

Henry Hin Kui Ma, M.B.B.S., FRACP, PhD.

EDUCATION:
Undergraduate Training:
1990 – 1995 Bachelor of Medicine/Bachelor of Surgery (MBBS)
University of Melbourne, Melbourne, Victoria

Advanced Training in Neurology:
Austin Health and Royal Melbourne Hospital

Doctor of Philosophy:
University of Melbourne under the supervision of Professor Geoffrey Donnan and Professor Stephen Davis.
Title: The Ischemic Penumbra – its Topography, Duration and Clinical Effect
Completed and Graduation: December 2018

CURRENT EMPLOYMENT:
- Professor Director of Neurology Department, Monash Health, Melbourne
- Head, Stroke Unit, Consultant Neurologist, Monash Health, Melbourne, Victoria

PREVIOUS EMPLOYMENT:
- Consultant Neurologist, Austin Health
- Senior Clinical Research Fellow, Florey Neuroscience and Mental Health Institutes

UNIVERSITY APPOINTMENT:
- Professor, Department of Medicine, School of Clinical Sciences, Monash University, Melbourne Victoria

RESEARCH SOCIETY / ORGANISATION EXECUTIVE ROLES
- Past: President of Australasia Stroke Academy (ASA)
- Past: Co-Chair of Australasia Stroke Trial Network (ASTN)
- Past: Council Member, Asia Pacific Stroke Organization (APSO)
- Member of Global Alliance of Independent Stroke Network (GAINS) – representing ASTN

HEALTH SERVICE ASSOCIATED MEMEBERSHIP:
- Member of the Cardiovascular Learning Health Network, Advisory Committee, Safer Care Victoria, DHHS
- Past Member of Expert Working Group (Stroke), Safer Care Victoria, DHHS
- Past Member of Governance Committee of Safer Care Victoria (DHHS) Stroke Clinical Network
- Member of the Endovascular Clot Retrieval (ECR) Monitoring Committee for Department of Health and Human Service (DHHS)
- Member of the AuSCR Reperfusion and Telemedicine Subcommittee

Australia's Stroke Trial Experience

ABSTRACT

Over the past 30 years, Australia has become a global leader in stroke research, particularly through landmark clinical trials that have shaped clinical practice worldwide. Despite challenges posed by the country's size and dispersed population, success has been driven by strong leadership, long-term vision, the Australasian Stroke Trial Network, government support, international collaboration, and local talent development. This lecture will review Australia's clinical trial experience, highlighting both successes and lessons learned. This aims to guide others in establishing clinical research and avoiding our mistakes.

1101 B2A_1435-1500

CURRICULUM VITAE

Dr. Andrew M. Demchuk, MD, FRCPC

BIOGRAPHICAL DATA
Name: Andrew M. Demchuk, MD FRCPC
Date of Birth: September 1, 1969
Citizenship: Canada
Address: Foothills Medical Centre, Room 1162
University of Calgary 1403 29th Street, NW Calgary,
AB T2N 2T9
Telephone: 403 944-8671
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Email: ademchuk@ucalgary.ca

Current Positions Held:
1. Director, Calgary Stroke Program
2. Clinician Lead, Transcranial Doppler Program, Alberta Health Services (Calgary)
3. Lead, Stroke Neuro Team, Hotchkiss Brain Institute

Current rank: Professor, Department of Clinical Neurosciences and Department of Radiology
Faculty/Institution: Medicine/University of Calgary

ACADEMIC RECORD
Final Degree: MD with great distinction, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 1993.
Specialty: Adult Neurology, Cerebrovascular Disease, Acute Stroke Treatment, Transcranial Doppler and Magnetic Resonance Imaging in Stroke

i. Undergraduate: Pre-Medicine, 1989, University of Regina/Regina/Canada
ii. Special professional: None
iii. Graduate and post-doctoral: Doctor of Medicine, 1993, University of Saskatchewan/ Saskatoon/Canada
Residency: Adult Neurology, (7/93-6/97), University of Calgary/Calgary/Canada
Chief Resident, Neurology Residency (7/96-6/97)
Fellowship: Cerebrovascular and Neurocritical Care Fellow, (7/97-6/99), University of Texas Health Science Centre at Houston/Houston/ under the direction of Dr. J.C. Grotta, (National Institutes of Health Stroke Training Fellowship). Affiliated with Hermann Hospital, St. Luke's Episcopal Hospital, Southwest Memorial Hospital and Northwest Memorial Hospital
iv. Licensure, certification and boards (e.g. FRCPC): Licentiate of Medical Council of Canada, 1995; Fellow of the Royal College of Physicians and Surgeons in Neurology, 1997; American Society of Neuroimaging Neurosonology Certification, 1999.

An Introduction to ACT-Global Platform

ABSTRACT

Will discuss the clinical trial platform called Act Global which is a collaboration between University of Calgary (Calgary Canada) and The George Institute (Sydney Australia). Act Global is a multifactorial, multiarm, multistage, randomized, global adaptive platform trial. The goal of Act Global is to efficiently answer multiple questions in stroke care/ treatment across a continuum of care steps. Currently 3 domains have started enrolling. ACT-When is evaluating safety and efficacy of IV TNK as bridging to EVT and when patients are taking DOACs. Act-When is also evaluating best dose of IV TNK in different stroke subpopulations. Act-42 is evaluating a novel neuroprotectant in acute ischemic stroke and Enchanted-3 is examining which BP target to achieve post EVT reperfusion. Additional domains are planned with one currently funded examining drug/dose of intra-arterial lytic after mechanical thrombectomy. We are currently ramping global participation in the platform and are quite interesting in involving Taiwan sites if sufficient interest.

1101 B2A_1520-1600

CURRICULUM VITAE

Jin-Moo Lee, MD, PhD

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Present Positions:
Andrew B. & Gretchen P. Jones Professor
Chair, Department of Neurology
Professor, Department of Radiology (secondary appointment)
Professor, Department of Biomedical Engineering (secondary appointment)
Professor, Division of Biology and Biomedical Sciences (secondary appointment)
Washington University School of Medicine, St. Louis, Missouri
Neurologist-in-Chief, Barnes-Jewish Hospital

Education:
Yale College, New Haven, Connecticut, 1981-1985
B.A., Molecular Biophysics and Biochemistry
Magna Cum Laude, Honors in Major
Joan and Sanford I. Weill Medical College, Cornell University, New York, New York, 1985-1993
M.D.
Joan and Sanford I. Weill Medical College, Cornell University, New York, New York, 1985-1992
Ph.D., Neuroscience, Thesis Advisor: Ira B. Black, MD

Residency:
Intern, Internal Medicine, 1993-1994
Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania
Resident, Neurology, 1994-1997
Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania
Chief Resident, Neurology, 1996-1997
Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania

Fellowship:
Vascular Neurology Fellow, 1997-1999
Washington University School of Medicine, St. Louis, Missouri
Post-doctoral Research Fellow, 1997-1999
Washington University School of Medicine, St. Louis, Missouri
Research: The pathologic role of synaptic zinc in ischemic brain injury.
Mentors: Dennis W. Choi, MD, PhD and Chung Y. Hsu, MD, PhD

Academic
Andrew B. & Gretchen P. Jones Professor, 2021-present

Multiomic Signatures of Ischemic Brain Injury: From Mouse to Man

ABSTRACT

Sixty years investigating ischemic brain injury mechanisms has yielded more than 1,000 drug targets. Yet, not a single cerebroprotective drug has reached FDA approval for the treatment of acute ischemic stroke (AIS), casting doubt on traditional forward-translational approaches. Confirming drug targets using human genomics triples the chances of drug approval by the FDA, focusing attention on reverse translational approaches including genome-wide association studies (GWASs). A recent GWAS of 6,000 AIS patients using a phenotype of early neurological deterioration/improvement has identified genes implicated in excitotoxicity. This study and others provide proof of principle that GWAS can not only provide human genetic support for existing drug targets but might also identify novel targets for AIS. To understand the cellular and molecular mechanisms of these GWAS hits, similar data-driven approaches using multiomics in animal models will be helpful in delineating genes and pathways involved in ischemic brain injury. With renewed optimism that cerebroprotection is possible especially when combined with reperfusion therapies, it will be important to increase the odds of success by validating drug targets using genomics and other multiomic approaches.

1101 B2A_1600-1640

CURRICULUM VITAE

Dr. Andrew M. Demchuk, MD, FRCPC

BIOGRAPHICAL DATA
Name: Andrew M. Demchuk, MD FRCPC
Date of Birth: September 1, 1969
Citizenship: Canada
Address: Foothills Medical Centre, Room 1162
University of Calgary 1403 29th Street, NW Calgary,
AB T2N 2T9
Telephone: 403 944-8671
Fax: 403 944-1602
Email: ademchuk@ucalgary.ca

Current Positions Held:
1. Director, Calgary Stroke Program
2. Clinician Lead, Transcranial Doppler Program, Alberta Health Services (Calgary)
3. Lead, Stroke Neuro Team, Hotchkiss Brain Institute

Current rank: Professor, Department of Clinical Neurosciences and Department of Radiology
Faculty/Institution: Medicine/University of Calgary

ACADEMIC RECORD
Final Degree: MD with great distinction, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 1993.
Specialty: Adult Neurology, Cerebrovascular Disease, Acute Stroke Treatment, Transcranial Doppler and Magnetic Resonance Imaging in Stroke

i. Undergraduate: Pre-Medicine, 1989, University of Regina/Regina/Canada
ii. Special professional: None
iii. Graduate and post-doctoral: Doctor of Medicine, 1993, University of Saskatchewan/ Saskatoon/Canada
Residency: Adult Neurology, (7/93-6/97), University of Calgary/Calgary/Canada
Chief Resident, Neurology Residency (7/96-6/97)
Fellowship: Cerebrovascular and Neurocritical Care Fellow, (7/97-6/99), University of Texas Health Science Centre at Houston/Houston/ under the direction of Dr. J.C. Grotta, (National Institutes of Health Stroke Training Fellowship). Affiliated with Hermann Hospital, St. Luke's Episcopal Hospital, Southwest Memorial Hospital and Northwest Memorial Hospital
iv. Licensure, certification and boards (e.g. FRCPC): Licentiate of Medical Council of Canada, 1995; Fellow of the Royal College of Physicians and Surgeons in Neurology, 1997; American Society of Neuroimaging Neurosonology Certification, 1999.

A career imaging based quest to optimize patient selection for acute stroke treatments-much learned but much yet to do

ABSTRACT

In this lecture I will discuss my research in the area of imaging based selection. I will provide insights and evidence on how noncontrast CT and CT angiography scales and tools are being used to help select appropriate patients for acute stroke interventions. This includes minor stroke/TIA, acute ischemic stroke including LVO, and intracerebral hemorrhage. The goal with imaging selection is to identify specific findings that have a treatment interaction.

1101 B2A_1640-1655

A Sketch of My Clinical Stroke Research

李 孟
嘉義長庚紀念醫院

ABSTRACT

Professor Chung Hsu established a lasting legacy through his contributions to both basic and clinical research, and I am deeply grateful and humbled to receive this award in memory of his achievements. In this lecture, I will present studies in which I have served as leading or corresponding author. These include investigations of common but nontraditional risk factors of stroke such as low eGFR, microalbuminuria, prehypertension, prediabetes, and cognitive impairment; analyses of trends in incident and recurrent ischemic stroke in Taiwan; and research on neuroimaging and endovascular therapy, including anterior choroidal artery ischemic patterns predicting outcomes of carotid occlusion and endovascular therapy in large-core ischemic stroke. I will also discuss atrial fibrillation identification, focusing on unrecognized history of transient AF and a randomized controlled trial comparing detection between serial 12-lead ECG and 24-hour Holter monitoring. Finally, I will highlight treatment strategies, including folic acid supplementation, the risk of intracranial hemorrhage associated with low-dose aspirin, long-term dual antiplatelet therapy, and individual NOACs, as well as the effect of intensive blood pressure and LDL-C lowering for secondary stroke prevention.

1101 B2B_0830-0850

CURRICULUM VITAE

王建智 / Chien-Chih Wang

CURRENT PROFESSIONAL POSITION:

台中榮總復健部主治醫師

Attending physician ,Dept. of Physical therapy and rehabilitation, Taichung Veterans General Hospital, Taiwan

EDUCATION:

2001-2008 國防醫學院醫學系
Bachelor of Medicine, National defense medical University, Taiwan

2016-2021 陽明交通大學臨床醫學研究所博士
Ph.D., Graduate Institute of Clinical Medicine, C National Yang Ming Chao Tung university Taiwan

PROFESSIONAL EXPERIENCE:

2009-2012 臺北榮民總醫院復健部住院醫師及專科醫師
Training and specialist in physical and rehabilitation medicine in Taipei Veterans general hospital

2012 臺北馬偕疼痛中心研究醫師
Fellowship in Mackay Memorial Hospital Pain Management Center , Taipei

2012-2021 臺北榮總玉里分復健科主治醫師
Attending Physician, Taipei Veterans General Hospital Yuli Branch , Hualien ,Taiwan

2022-now 陽明交通大學醫學系助理教授
Assistant professor of medicine department, National Yang Ming Chao Tung university, Taiwan.

2023/05-06 韓國首爾大學醫院超音波醫學研究醫師
Fellowship of MSK ultrasound in Seoul National University hospital

2024 臺中榮民總醫院復健部神經復健科科主任
Attending Physician, Taichung Veterans General Hospital ,Taiwan

RECENT RESEARCH PROJECTS:

1. Precision diagnosis of early osteoarthritis with Imaging BioMarker and synovial bio-marker

Neurostimulation therapy to improve post stroke disability and pain: application and evidence

ABSTRACT

Stroke rehabilitation typically entails considerable effort and resources .Different from traditional physical therapy, neurostimulation therapy can directly remodulate brain activity to address the imbalance between contralesional and ipsilesional hemispheres of the brain. rTMS(repetitive transcranial magnetic stimulation) appears to be one of the most suitable neurostimulation therapy for enhancing rehabilitation efficacy in both acute and chronic stages, whereas tDCS (transcranial direct current stimulation) seems most feasible for chronic stroke patients. The concept of multidisciplinary rehabilitation strategies combined with neurostimulation therapy for stroke patients could be emphasized in current clinical practice.

1101 B2B_0830-0850

CURRICULUM VITAE

陳俊鴻 / Chun-Hung Chen

CURRENT PROFESSIONAL POSITION:

2024-08~Now 高雄醫學大學附設醫院神經部主治醫師
Attending Physician, Dept. of Neurology, Kaohsiung Medical University Chung-Ho Memory Hospital, Taiwan

2024-08~Now 高雄醫學大學咀嚼吞嚥障礙健康產業技人才培育基地營運長
Chief Operating Officer, Swallowing and Dysphagia Health Industry Chain and Talent Training Center, Kaohsiung Medical University

2024-11~Now 台灣腦中風學會理事
Council Member, Taiwan Stroke Association

2025-05~Now 台灣神經醫學會理事
Council Member, Taiwan Neurological Society

2025-08~Now 高雄醫學大學附設醫院腦中風中心主任
Director, Stroke Center, Kaohsiung Medical University Hospital

EDUCATION:

1993-09~1998-06 高雄醫學大學學士後醫學系畢業
Graduated from the Department of Postgraduate Medicine, Kaohsiung Medical University

PROFESSIONAL EXPERIENCE:

1998-08~2001-02 高雄長庚醫院神經部住院醫師
Resident Physician, Department of Neurology, Chang Gung Memorial Hospital, Kaohsiung

2001-05~2014-07 高雄醫學大學附設醫院神經部住院醫師、主治醫師
Resident Physician/Attending Physician, Department of Neurology, Kaohsiung Medical University Hospital

2014-07~2024-07 高雄市立小港醫院神經科/國際醫療中心主任
Director of Neurology/International Medical Center Kaohsiung Municipal Siaogang Hospital

2022-01-2025-01 高雄市腦中風病友協會理事長
President of Kaohsiung Stroke Association

RECENT RESEARCH PROJECTS:

2022-01~2025-12 教育部大南方咀嚼吞嚥健康產業人才培育基地計畫
Ministry of Education Southern Taiwan Oral and Swallowing Health Industry Chain and Talent Development Program

The Role of Post-Stroke Dysphagia Care in Stroke Management

ABSTRACT

Dysphagia is common sequelae of post-stroke. Pneumonia is also a common cause of death in the later stage of stroke. However, there is a close relationship between dysphagia and aspiration pneumonia. Numerous researches report indicate that effectively managing dysphagia in stroke patients can significantly reduce the incidence of aspiration pneumonia, thereby lowering mortality rates. Thus, dysphagia has become a crucial issue in the care of patients after stroke.

1101 B2B_0910-0930

CURRICULUM VITAE

蘇慧真

學歷：2008　中國醫藥大學醫學系畢
2023~ 成大醫學院健康照護研究所博士班

經歷：Jan, 2014-Present　成大醫院神經部主治醫師
2015-2022　成大醫院神經部病房主任
Nov,2012-Dec,2013　活水頭痛診療中心主治醫師
Jul,2011-Jun, 2012　成大醫院神經部總醫師

執照：
- 國家醫師(2008.11)，醫字第043089號
- 神經科專科醫師(2012.11)，神專醫字第946號
- 整合醫學醫證字第0491號

現職：
- 成大醫院神經部主治醫師
- 成大醫院神經部腦中風中心行政祕書
- 成大醫院咀嚼吞嚥整合照護中心主任
- 成大醫院國際醫療中心主任

研究領域：腦中風疾病及神經退化性疾病整合照護
吞嚥障礙整合照護
高齡整合照護
難治型頭痛
肉毒桿菌素注射

Aggressive intervention for post-stroke spasticity

ABSTRACT

Post-stroke spasticity is a major barrier to recovery, and aggressive intervention is often required to prevent irreversible disability. Botulinum toxin (BoNT) has emerged as the cornerstone therapy, offering targeted and effective reduction of muscle overactivity. This lecture will review the past and present role of BoNT in spasticity management, emphasizing the importance of timely and assertive treatment. Current limitations remain, as the most precise determination of dose, target muscles, and injection timing is still largely experience-based and not yet optimized by AI. Recent studies suggest a future role for AI-assisted guidance, but its clinical translation is only beginning.

1101 B2B_0930-0950

CURRICULUM VITAE

梁蕙雯 / Huey-Wen Liang

CURRENT PROFESSIONAL POSITION:

臺大醫院復健部主任暨主治醫師

Director and attending physician, Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital, Taiwan.

EDUCATION:

1984~1991 高雄醫學院醫學士
Bachelor of Medicine, Kaohsiung Medical College, Taiwan

1997~1999 臺灣大學職業醫學與工業衛生研究所碩士
Master, Institute of Occupational Medicine and Industrial Hygiene, National Taiwan University, Taiwan

2005~2009 臺灣大學職業醫學與工業衛生研究所博士
Ph.D. Institute of Occupational Medicine and Industrial Hygiene, National Taiwan University, Taiwan

PROFESSIONAL EXPERIENCE:

2023~now 臺大醫院復健部主任
Director, Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital, Taiwan.

2024~now 臺大醫學院復健科教授
Professor, Department of Physical Medicine and Rehabilitation, National Taiwan University College of Medicine, Taiwan.

2024~now 台灣神經復健醫學會理事長
President, Taiwan Society of Neuroerehabilitation

RECENT RESEARCH PROJECTS:

1. cohort study of falls and related injuries in stroke patients--integration of explainable artificial intelligence and a novel posturography
2. The feasibility and therapeutic effect of hybrid end-effector type robot-assisted gait training with an active-assisted module in chronic stroke survivors

Digital rehabilitation in stroke patients

ABSTRACT

Digital rehabilitation refers to the use of technology to support and enhance rehabilitation services, and it has been applied in neurorehabilitation for patients with physical and cognitive deficits. These technologies offer benefits such as continuous monitoring, real-time feedback, and personalized interventions. Research has demonstrated the clinical feasibility of certain devices for specific populations, but a gap remains between product development and real-world clinical application. Despite the potential benefits, the adoption of digital technology in neurorehabilitation has been slower than in other sectors, such as business and education. Challenges like cost-effectiveness and unequal access to technology continue to persist across regions. This session will review the current evidence on digital technology in stroke rehabilitation, with a focus on wearable devices and rehabilitation robots.

1101 B2B_1310-1400

CURRICULUM VITAE

張育銘 / Chang Yu-Ming

Chronology of position held::

Aug. 2014 to Jul. 2018 Resident, Department of Neurology
National Cheng Kung University Hospital, Tainan, Taiwan

Aug. 2016 to Jul. 2017 Chief Resident, Department of Neurology
National Cheng Kung University Hospital, Tainan, Taiwan

Aug. 2018 to present Attending Physician, Department of Neurology
National Cheng Kung University Hospital, Tainan, Taiwan

Feb. 2025 to present Clinical Assistant Professor, Department of Neurology
National Cheng Kung University Hospital, Tainan, Taiwan

Education:

2006-2013 Doctor of Medicine, National Cheng Kung University

Board Certification:

2013 醫師證書 醫字第050312號
2017 神經科專科醫師證書 神專醫字第001226號
2020 急性缺血性腦中風機械取栓證書 台腦字第00023號
2021 神經重症加護專科醫師證書 神重專字第1086號

Society Memberships:

Member, Neurology Association, Taiwan

Study Projects:

1. Clinical impact of ankle-brachial index and pulse-wave velocity in treatment and outcome of acute ischemic stroke patients. NCKUH-10803037 (2019/01/01-2019/12/31)
2. The clinical impact of neuroimaging findings on patients with acute ischemic stroke. NCKUH-11003022 (2021/01/01-2021/12/31)
3. Accuracy in Functional Outcome Prediction between Different Brain Image Parameters in Acute Ischemic Stroke Patients. NCKUH-11103019 (2022/01/01-2022/12/31)

4. Impact of Vasculopathy in Cerebral Autoregulation and Cognitive Performance for Cardiopulmonary Bypass Patients. NCKUH-11201006 (2023/01/01-2023/12/31)
5. Impact of Vasculopathy in Cerebral Autoregulation and Cognitive Performance for Cardiopulmonary Bypass Patients. NCKUH-11301002 (2024/01/01-2024/12/31)
6. Correlation between intracranial vasculopathy and long-term dynamic cognitive changes in cardiopulmonary bypass patients. NCKUH-11401008 (2025/01/01-2025/12/31)

Rescue Therapy for Failed Mechanical Thrombectomy (MT): Rescue stent first

ABSTRACT

Clinical scenario

In the management of acute ischemic stroke with endovascular thrombectomy, clinicians often face difficult, dilemma-like situations.

For example, arterial re-occlusion may occur shortly after thrombectomy, or during the peri-procedural period it may become apparent that the artery is at risk of complete occlusion. In such circumstances, the decision between intervention and non-intervention—whether to proceed with stenting, angioplasty, or to rely on medical therapy—carries both potential benefits and risks.

This debate will be framed around acute ischemic stroke due to large vessel occlusion in either the anterior or posterior circulation, under scenarios eligible for thrombectomy, with a focus on determining the optimal therapeutic priority when these challenges arise.

1101 B2B_1310-1400

CURRICULUM VITAE

周兆亮 / Chao-Liang Chou MD

CURRENT PROFESSIONAL POSITION:

台北馬偕醫院神經科主治醫師

馬偕醫學大學助理教授

Dept. of Neurology, Mackay Memorial Hospital, Taipei, Taiwan

Assistant Professor, MacKay Medical University, New Taipei City, Taiwan

EDUCATION:

1996-2003 台灣大學醫學系

2012-2014 馬偕醫學院生物醫學研究所碩士

神經科專科醫師

重症聯委會重症專科醫師

急性中風介入取栓專長醫師

PROFESSIONAL EXPERIENCE:

2004-2008 馬偕醫院神經科住院醫師

2009-2015 馬偕神經加護病房專責醫師

2017~ 馬偕神經科 53 病房主任

RECENT RESEARCH PROJECTS:

1. Acute ischemic stroke intervention
2. Epidemiology of carotid artery atherosclerosis

Rescue Therapy for Failed Mechanical Thrombectomy (MT): Medication First

ABSTRACT

Background:
Mechanical thrombectomy (MT) has become the cornerstone therapy for acute large vessel occlusion stroke, achieving high rates of recanalization and improved clinical outcomes. However, in a subset of patients—particularly those with underlying intracranial atherosclerotic stenosis (ICAS)—mechanical thrombectomy may fail or lead to early re-occlusion. In these situations, the optimal rescue strategy remains debated: whether to proceed immediately with intracranial stenting or to initiate pharmacologic rescue therapy such as glycoprotein IIb/IIIa inhibitors (e.g., Tirofiban) and early dual-antiplatelet therapy.

Rationale for a "Medication-First" Approach:
In cases of ICAS-related occlusion, the vessel pathology is often characterized by unstable plaque, endothelial injury, and local thrombosis. Immediate stenting in this inflammatory and prothrombotic milieu carries several risks—in-stent thrombosis, hemorrhagic transformation, and the need for aggressive antiplatelet therapy during the acute phase, which may exacerbate bleeding risk, especially after large infarcts or in elderly patients. Conversely, pharmacologic rescue with Tirofiban or short-term glycoprotein IIb/IIIa inhibitors can stabilize the lesion, prevent platelet aggregation, and promote spontaneous reflow without introducing a permanent metallic scaffold in a fragile vessel environment.

Evidence Supporting Medical Rescue:
Recent studies, including the RESCUE BT, ANGEL-ACT registry, and multiple multicenter analyses from East Asia, have demonstrated that short-term infusion of Tirofiban following failed MT or residual stenosis can achieve successful recanalization rates comparable to emergent stenting, but with lower rates of symptomatic intracranial hemorrhage (sICH) and better overall safety profiles. In addition, staged stenting—after 24–72 hours of medical stabilization and neuroimaging reassessment—allows for patient selection under safer conditions and reduces the risk of hemorrhagic complications related to dual-antiplatelet loading during acute reperfusion.

1101 B2B_1400-1420

CURRICULUM VITAE

黃彥筑 / Yen-Chu Huang

CURRENT PROFESSIONAL POSITION:

Jul. 2023 – Present	Chief, Department of Neurology, CGMH at Jiayi
Jun. 2022 – Present	Chief, Stroke Center, CGMH at Jiayi
Jan. 2023 – Present	Associate Professor, School of Medicine, Chang Gung University.

Education

Sep. 1996 – Jun. 2003	MD, Taipei Medical University

PROFESSIONAL EXPERIENCE:

Past:

Jul. 2014 – Jun. 2020	Chief, Department of Cerebrovascular Diseases & General Neurology.
Aug. 2015 – Dec. 2022	Adjunct Assistant Professor, Chang Gung University.
Jul. 2009 – Present	Attending Physician, Department of Neurology, CGMH at Chiayi.
Jul. 2008 –Jun. 2009	Fellowship, Department of Neurology, CGMH at at Chiayi.
Jul. 2004 –Jun. 2008	Residency, Neurology, CGMH at Linkou

RECENT RESEARCH PROJECTS:

1. Deep Learning Assisted Neuro-Imaging Analysis for acute stroke
2. Investigating the feasibility of salivary conductivity as a tool for assessing fluid status in acute ischemic stroke

PATENT:

Taiwan Utility Model Patent M673171 — System for Automatic MRI Image Classification to Detect Atrial Fibrillation–Related Stroke

血脂異常治療最新進展：包含新治療策略（PCSK9 抑制劑、siRNA）
Dyslipidemia Treatment Updates, Including Novel Regimens (PCSK9i, siRNA)

ABSTRACT

Atherosclerotic cardiovascular disease (ASCVD) and atherosclerotic stroke are driven by cumulative exposure to apoB-containing lipoproteins. Evidence from randomized trials and genetic studies shows that clinical benefit scales with the absolute and sustained reduction in LDL-cholesterol (LDL-C)—yielding ~20–25% relative risk reduction in major events for each 1.0 mmol/L (≈39 mg/dL) lowered—without a safety threshold identified within contemporary treatment ranges. This session synthesizes the evidence base and outlines a pragmatic, guideline-aligned care pathway.

Foundational therapies include high-intensity statins and ezetimibe. Outcome-proven add-ons comprise PCSK9 monoclonal antibodies (evolocumab, alirocumab), which provide ~60% additional LDL-C lowering, reduce myocardial infarction and ischemic stroke, and demonstrate durable safety even at very low on-treatment LDL-C. Inclisiran (PCSK9 siRNA) offers ~50% LDL-C reduction with twice-yearly maintenance; cardiovascular outcomes are pending. Bempedoic acid is the first oral non-statin to demonstrate event reduction in statin-intolerant patients. Dedicated cognition studies and long-term extensions collectively support the neurocognitive and hemorrhagic stroke safety of intensive LDL-C lowering.

Residual risk after attainment of LDL-C targets is addressed in two domains: (1) triglyceride-rich lipoproteins, for which icosapent ethyl (EPA) reduces first and total ischemic events—including stroke—in statin-treated patients with elevated triglycerides, whereas mixed EPA/DHA formulations and pemafibrate have not reduced major events; and (2) lipoprotein(a), a causal, prevalent driver of ASCVD and stroke for which at least once-in-a-lifetime measurement is recommended. For extreme, progressive disease, lipoprotein apheresis remains an option while RNA-targeted Lp(a) therapies mature.

Overall, contemporary practice favors early treatment, ≥50% LDL-C reduction and <55 mg/dL targets in very-high-risk states, rapid escalation (statin → ezetimibe → PCSK9/inclisiran ± bempedoic acid), EPA for triglyceride-rich phenotypes, routine Lp(a) assessment, and structured follow-up to reduce cardiovascular events.

1101 B2B_1420-1440

CURRICULUM VITAE

林稜傑 / Leng-Chieh Lin

Education：1989-1996 國立陽明大學

Employment Record：

高雄醫學大學附設醫院內科：R1-R3 1998→2001

高雄醫學大學附設醫院急診科：CR1-CR2 2001→2003

高雄醫學大學附設醫院急診科主治醫師：2003→2004

嘉義長庚醫院急診科主治醫師：2004→2009

雲林長庚醫院急診科主任：2009-12-10→2010-08-01

嘉義長庚醫院急診科主治醫師：2011-07-01→迄今

嘉義長庚醫院急診科副主任：2013-02-01→2017-06-30

嘉義長庚醫院急診科主任：2017-07-01→2023.06.30

Professional affiliations：急診醫學會、內科醫學會

Licensers：

內科專科醫師：內專醫字第005876號

急診專科醫師：急專醫字第000580號

教育部部定助理教授：助理字第151163號

Professional Activities：

2015-08-27→迄今：嘉義縣消防局緊急醫療救護諮詢顧問團顧問

專利

1. 用於檢測脫水的方法及設備
   A. 歐盟 Patent Number: EP3229021A1, Grant Date: 2017/4/6.
   B. 中華民國 Patent Number: 發明第I651531號, Grant Date: 2019/02/21.
   C. 美國 Patent Number: US10,299,678B2, Grant Date: 2019/05/28.
   D. 中國大陸 Patent Number: 201710223606.5, Grant Date: 2020/07/17.

Honor &/or Awards：

1. 2024年第25屆NHQA國家醫療品質獎 傑出醫療類競賽 優選. National Healthcare Quality Award, Outstanding Clinical Service.
2. 2021年國家品質標章 Symbol of National Quality.
3. 2021年國家新創獎 精進續獎
4. 2020年國家品質標章 Symbol of National Quality.
5. 2020年國家新創獎續獎 新創精進獎
6. 2019年國家新創獎續獎 新創精進獎
7. 2018年第15屆國家新創獎 臨床新創獎
8. 2017年台北國際發明暨技術交易展發明競賽 鉑金獎

Dehydration and Enhanced Hydration in Acute Ischemic Stroke

ABSTRACT

A substantial proportion of patients with acute ischemic stroke (29–45%) present with hypovolemia at hospital admission. This condition has been shown to significantly increase the risk of mortality or discharge with dependency. Current acute stroke guidelines recommend fluid replacement in hypovolemic patients; however, the optimal strategy for rehydration remains undefined.

We conducted the REVIVE trial, a randomized clinical study evaluating the impact of enhanced hydration therapy guided by the blood urea nitrogen/creatinine (BUN/Cr) ratio on clinical outcomes in acute ischemic stroke. The findings suggest that BUN/Cr ratio–guided enhanced hydration may improve prognosis in specific stroke subtypes, highlighting the potential role of targeted rehydration as an adjunct in acute stroke management.

1101 B2B_1440-1500

CURRICULUM VITAE

陳銳溢 / Jui-Yi Chen

奇美醫學中心腎臟科
Nephrology, Chi-Mei Medical Center
E-mail: kwuilus0101@gmail.com

Experience:

2019.10~	奇美醫學中心腎臟科主治醫師 Attending Physician, Department of Nephrology, Chi Mei Medical Center
2016.05~2019.09	奇美醫學中心內科部住院醫師 Resident Physician, Department of Internal Medicine, Chi Mei Medical Center
2014.09~2016.04	高雄長庚內科住院醫師 Resident Physician, Department of Internal Medicine, Kaohsiung Chang Gung Memorial Hospital
2013.08~2014.07	奇美醫學中心一般科住院醫師(PGY) Resident Physician (PGY), General Medicine, Chi Mei Medical Center
2005.09~2012.08	中山醫學大學醫學系 School of Medicine, Chung Shan Medical University

Overview:

陳醫師目前於台灣台南奇美醫學中心擔任腎臟科主治醫師，專長是急性腎疾病、慢性腎臟病照護、血液透析、腹膜透析、高醛固酮血症，並擔任奇美醫學中心教學專責主治醫師，目前研究專研於急性腎損傷、急性腎臟病、慢性腎臟病及高醛固酮血症相關。

Dr. Chen currently serves as an Attending Physician in the Nephrology Department at Chi Mei Medical Center in Tainan, Taiwan. His expertise includes acute kidney disease, chronic kidney disease care, hemodialysis, peritoneal dialysis, and hyperaldosteronism. He also holds a position as a dedicated teaching physician at Chi Mei Medical Center. His current research focuses on acute kidney injury, acute kidney disease, chronic kidney disease, and hyperaldosteronism-related studies.

From Kidney Protection to Stroke Prevention: The Potential Role of SGLT2 Inhibitors

ABSTRACT

Chronic kidney disease (CKD) is a major global health burden and an independent risk factor for both ischemic and hemorrhagic stroke. Epidemiological studies indicate that the risk of stroke increases stepwise with declining kidney function and rising proteinuria, even after adjustment for traditional cardiovascular risk factors. Compared with the general population, patients with CKD have a two- to sevenfold higher incidence of stroke, and those with end-stage kidney disease experience the poorest neurological outcomes and highest post-stroke mortality. The underlying mechanisms linking CKD and cerebrovascular disease are multifactorial, involving both traditional risk factors—such as hypertension, diabetes, atrial fibrillation, and dyslipidemia—and nontraditional CKD-specific contributors, including oxidative stress, endothelial dysfunction, chronic inflammation, and uremic toxins such as indoxyl sulfate. Dialysis-related hemodynamic instability and mineral-bone disorder–related vascular calcification further exacerbate cerebrovascular vulnerability. Moreover, CKD complicates stroke diagnosis, risk prediction, and management due to altered hemostasis and the increased bleeding risk associated with antithrombotic therapies.

Recent clinical and experimental findings suggest that kidney–brain interactions extend beyond shared vascular pathology to encompass molecular mechanisms involving the blood–brain barrier, microglial activation, and prothrombotic states. Despite the high cerebrovascular burden in CKD, effective preventive strategies remain limited, as patients with advanced kidney disease have been underrepresented in major cardiovascular and stroke trials.

Sodium–glucose cotransporter-2 inhibitors (SGLT2i) have emerged as a promising therapy that not only improves renal and cardiovascular outcomes but may also modulate cerebrovascular risk. The CREDENCE trial demonstrated a nonsignificant trend toward reduced total stroke incidence with canagliflozin versus placebo (hazard ratio [HR] 0.77, 95% CI 0.55–1.08) and suggested potential benefits in reducing hemorrhagic stroke and atrial fibrillation. A meta-analysis of four major cardiovascular outcome trials further indicated that SGLT2i use was associated with a significant reduction in hemorrhagic stroke (HR 0.50, 95% CI 0.30–0.83) and atrial fibrillation/flutter (HR 0.81, 95% CI 0.71–0.93), with the greatest protection observed among participants with baseline eGFR <45 mL/min/1.73 m². These findings highlight a potential neuroprotective effect of SGLT2i in patients with diabetic kidney disease, possibly through mechanisms involving blood pressure reduction, improved endothelial function, decreased oxidative stress, and modulation of vascular stiffness.

In summary, CKD confers a markedly elevated risk of stroke through intertwined hemodynamic, metabolic, and inflammatory pathways. While traditional preventive measures remain suboptimal in this population, SGLT2 inhibitors represent a novel therapeutic avenue that may confer cerebrovascular protection, particularly in those with advanced CKD. Future trials specifically designed to evaluate stroke outcomes across CKD stages are warranted to clarify their role in integrated kidney–heart–brain protection.

1101 201_1120-1150

CURRICULUM VITAE

藍聖星 / Sheng-Hsing Lan

CURRENT PROFESSIONAL POSITION:

聖星診所院長

Superintendent, Divine-Star Neurologic Clinic, Kaohsiung, Taiwan

EDUCATION:

1978-1985 高雄醫學大學醫學系
Medical Doctor, Kaohsiung Medical University, Taiwan

2001-2006 高雄醫學大學行為科學研究所 理學碩士
Master of Science in Behavioral Science, Kaohsiung Medical University, Taiwan

2011-2014 國立中山大學 企業管理研究所醫務管理學程 企管碩士
Master of Business Administration in Healthcare Management, National Sun-Yat-Sen University, Taiwan

PROFESSIONAL EXPERIENCE:

2006-2007 美國紐約哥倫比亞大學醫學中心 癲癇研究員
Research Fellow in Epileptology, Department of Neurology at Columbia University Irving Medical Center

2010-2013 旗山醫院內科主任
Director, Department of Internal Medicine, Chishan Hospital, Kaohsiung, Taiwan.

2014-2017 旗山醫院副院長
Deputy Superintendent, Chishan Hospital, Kaohsiung, Taiwan.

2018-Now 聖星診所院長
Superintendent, Divine-Star Neurologic Clinic, Kaohsiung, Taiwan

2024-Now 艾維格林長照社團法人 執行董事
Executive Director, Evergreen Long-Term Care Institution

2024-Now 社團法人高雄縣醫師公會 秘書長
Secretary-General, Kaohsiung County Medical Association

AWARDS & HONOURS:

2025 中華民國醫師公會全國聯合會 台灣醫療典範獎
Taiwan Medical Paragon Award, Taiwan Medical Association

Beyond the Hospital Walls: Pioneering Integrated Neurological Care in the Community

ABSTRACT

As the healthcare landscape evolves, the role of the neurologist is expanding beyond the hospital. This presentation offers a high-level strategic analysis of the opportunities, challenges, and breakthrough strategies for neurologists pioneering a new paradigm of integrated care in the community.

The core value proposition of a community neurology clinic lies in its unparalleled capacity for managing complex chronic conditions. We not only retain the diagnostic and therapeutic excellence of hospital practice but also establish a significant clinical advantage through in-office procedures such as nerve conduction studies, ultrasound, and dementia assessments. This expertise is, without question, most vital in the long-term care arena, where we serve a large and consistent population defined by neurological disease. The challenge—and opportunity—lies in engineering an integrated care system that delivers both quality and efficiency. This underscores the essential mindset shift: we must position ourselves as the community's foremost consultants for brain, nerve, and chronic disease management.

This session will delve into strategies for navigating the initial challenge of limited public awareness to build an unshakeable foundation of professional trust. We will deconstruct how a clinic can become a central hub for post-stroke community care, seamlessly managing the patient's journey from subacute recovery to home-based services. Furthermore, on-the-ground insights from our clinic's experience with innovative self-pay treatments like rTMS will be shared, highlighting the profound operational flexibility that private practice affords.

This presentation is more than a business guide; it is an invitation to collectively reimagine how to transform our professional expertise into a sustainable, autonomous, and deeply impactful community healthcare enterprise.

1101 301_0900-0930

CURRICULUM VITAE

郭書帆 / Kuo Shufan

CURRENT PROFESSIONAL POSITION:

台北馬偕醫院神經科/重症醫學科主治醫師

Dept. of Neurology, Mackay Memorial Hospital, Taiwan

Dept. of Critical Care Medicine, Mackay Memorial Hospital, Taiwan

EDUCATION:

2002-2009 長庚大學醫學系

Bachelor of Medicine, Chang Gung University, Taiwan

2017-2019 台灣大學流行病學與預防醫學研究所碩士

Master of Science, Institute of Epidemiology and Preventive Medicine, National Taiwan University, Taiwan

PROFESSIONAL EXPERIENCE:

2010-2014 台北馬偕醫院神經科住院醫師

Resident, Department of Neurology, MacKay Memorial Hospital, Taiwan

2014-now 台北馬偕醫院神經科主治醫師

Attending Physician, Department of Neurology, MacKay Memorial Hospital, Taiwan

2017-now 台北馬偕醫院神經加護病房專責主治醫師

Attending Physician, Neurology Intensive Care Unit, MacKay Memorial Hospital, Taiwan

2025-now 馬偕醫學大學講師

Lecturer, MacKay Medical College, Taiwan

中風病理與臨床症狀、評估量表

ABSTRACT

缺血性中風（ischemic stroke）是全球最常見的中風類型，約佔所有中風病例的七成以上。其主要病因包括大血管粥狀硬化、小血管閉塞以及心房顫動等心源性栓塞。當腦血流中斷時，局部腦組織迅速陷入缺血缺氧，能量代謝受損導致鈉鉀幫浦失衡，進而引發細胞去極化、興奮性毒性及鈣離子過度流入。隨後，發炎反應與自由基損傷加劇組織壞死，最終形成缺血核心區（ischemic core）與可逆的缺血半暗帶（penumbra）。病理變化的進展速度決定了臨床治療介入的時效性。

臨床表現方面，缺血性中風的症狀依病灶分布而異。例如大腦中動脈典型症狀包括對側偏癱、感覺障礙、偏盲及語言障礙；前大腦動脈病變則可能出現下肢為主的運動缺損與人格改變；後循環中風則以眩暈、複視、共濟失調或意識障礙為主。小血管梗塞（lacunar infarction）臨床上常呈現純運動性、純感覺性或構音不良伴手笨拙等症候群。這些臨床特徵有助於病灶定位，亦影響急性治療策略的判斷。

為了提升診斷與病情量化的標準化，臨床上廣泛應用多項量表。NIH Stroke Scale (NIHSS)是急性中風評估的核心工具，能夠量化神經缺損嚴重度，並作為治療決策及預後判斷的重要依據。意識狀態則常利用Glasgow Coma Scale (GCS)輔助評估。針對功能預後與生活自理能力，modified Rankin Scale (mRS)在住院期間及出院追蹤扮演關鍵角色，並已成為臨床研究與大型臨床試驗的標準指標。

綜合而言，缺血性中風的病理變化與臨床表現高度相關，準確且即時的量表應用對於診斷、治療與預後評估均不可或缺。本演講將從病理機轉談起，結合典型症狀學，並探討臨床評估工具在實務與研究中的應用與限制，期望藉由此綜合性介紹，增進醫療人員對缺血性中風的整體理解，並進一步提升病患照護與臨床研究的品質。

1101 301_0930-1000

CURRICULUM VITAE

Yen-Heng Lin, MD. MS.

Attending Radiologist
Department of Medical Imaging, National Taiwan University Hospital
Clinical Assistant Professor
Department of Radiology, College of Medicine, National Taiwan University
No.7, Chung Shan S. Rd., Zhongzheng Dist., Taipei City 10002, Taiwan (R.O.C.)

I. Personal Data

Citizenship: Republic of China (Taiwan)
E-mail: cryhungry@gmail.com

II. Education

2001-2008	MD	School of Medicine, National Taiwan University.
2014-2016	MS	Graduate Institute of Epidemiology and Preventive Medicine. National Taiwan University.

III. Postgraduate Education

2007 – 2008	Internship	Department of Medical Imaging, National Taiwan University Hospital.
2009 – 2013	Residency	Department of Medical Imaging, National Taiwan University Hospital.
2012 – 2013	Chief Resident	Department of Medical Imaging, National Taiwan University Hospital.

IV. Hospital Affiliations

2013-2015, 2017-present	Visting staff, Department of Medical Imaging, National Taiwan University Hospital
2015-2017	Visting staff, Department of Medical Imaging, National Taiwan University Hospital, Yun-Lin branch
2017-2022	Adjunct Lecurer, Department of Radiology, National Taiwan University
2022-2024	Clinical Lecurer, Department of Radiology, National Taiwan

University
2024- Clinical Assistant Professor, Department of Radiology, National Taiwan University

V. Certifications

2010 Post Graduate Year (PGY) training
2012 Advanced Cardiac Life Support (ACLS)
2015 Qualified for neurointerventional radiology (NRST)
2018 Qualified for intra-arterial thrombectomy (NRST)
2018 Qualified for neurointerventional surgery (TSNIS)
2018 Qualified for intra-arterial thrombectomy (TSNIS)
2020 Instructor for neurointerventional radiology (NRST)
2020 Instructor for intra-arterial thrombectomy (NRST)

VI. Licensure

2008-present MD Taiwan (R.O.C)
2013-present License of Diagnostic Radiology, RSROC Taiwan (R.O.C.)
2015-present License of neuroradiology, NRST

VII. Professional Affiliations

The Radiological Society Republic of China (member)
Neuroradiology Society of Taiwan (member)
Taiwan Society for Neurovascular and Interventional Surgery (member)
Taiwan Stroke Society (member)

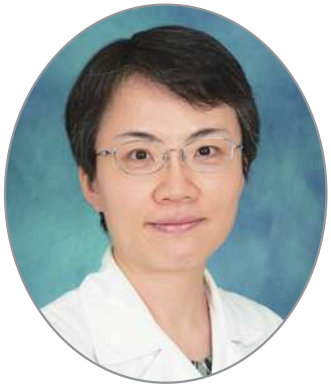
神經影像判讀

ABSTRACT

急性腦部疾病的診斷，影像工作扮演關鍵的角色。電腦斷層（CT）因檢查快速、可立即判斷出血與大範圍梗塞，仍是急診第一線的主要工具，並可藉由血管攝影（CTA）與灌流檢查（CTP）進一步評估血管阻塞與缺血範圍。磁振造影（MRI）則具備高軟組織對比度與多序列的優勢，對於小梗塞、後顱窩病灶及中風時期的鑑別尤其敏感。臨床判斷除了需熟悉各種影像工具特性，亦應掌握中風常見的影像表現與鑑別診斷原則，並理解病灶位置與功能解剖間的對應，以協助解釋病人症狀。透過跨領域合作，整合臨床與影像資訊，方能提升診斷準確性與治療決策品質，達到病患最大效益。

1101 301_1020-1050

CURRICULUM VITAE



葉馨喬 / Shin-Joe Yeh

CURRENT PROFESSIONAL POSITION:

臺大醫院神經部主治醫師

Dept. of Neurology, National Taiwan University Hospital, Taiwan

EDUCATION:

1996-2003 國立臺灣大學醫學系
Bachelor of Medicine, National Taiwan University, Taiwan

2007-2009 國立臺灣大學臨床醫學研究所
Master's degree, Graduate Institute of Clinical Medicine, National Taiwan University, Taiwan

2013-2022 國立臺灣大學解剖學暨細胞生物學研究所
Ph. D., Graduate Institute of Anatomy and Cell Biology, National Taiwan University, Taiwan

PROFESSIONAL EXPERIENCE:

2024-now 臺大醫學院神經科臨床副教授
Clinical Associate Professor, Department of Neurology, College of Medicine, National Taiwan University

2019.9-2020.4 美國康乃爾大學醫學院研究員
Research Fellow, Feil Family Brain & Mind Research Institute, Weill Cornell Medicine, USA

2012-now 臺大醫院神經部主治醫師
Attending Physician, National Taiwan University Hospital, Taiwan

RECENT RESEARCH PROJECTS:

1. Penumbra destination in acute ischemic stroke
2. Celebrex treatment for acute intracerebral hemorrhage

缺血性腦中風與TIA

ABSTRACT

缺血性腦中風是最常見的腦中風型態，是腦血管阻塞導致腦局部缺血性損傷，而TIA為腦部局部暫時性缺血但無腦組織損傷。其病因可依TOAST分類法，分為大動脈粥狀硬化、心源性腦中風、小血管堵塞、其他原因與原因不明共五大類，病因分類對於治療的選擇有至關重要的影響。此外，也將介紹急性腦中風的初步評估、再通治療及次級預防藥物的選擇原則。熟悉這些內容將有助於腦中風之個案管理。

1101 301_1050-1120

CURRICULUM VITAE

蘇亦昌 / I-Chang Su

Date of birth February 25, 1978

Appointments

2020/8/1~2022/10/31
Chief, Department of Neurosurgery, Taipei Medical University-Shuang Ho Hospital, Ministry of Health and Welfare
2019/8/1~
Staff, Department of Neurosurgery, Taipei Medical University-Shuang Ho Hospital, Ministry of Health and Welfare
07/01/2009~07/31/2019
Staff, Division of Neurosurgery, Department of Surgery, Taipei Cathay General Hospital
2015~2017, 2017~2019, 2019~2021
Board of directors, Taiwan Society for Neurovascular and Interventional Surgery
2019~2021
Deputy Secretary General, Taiwan Stroke Society

Certification and Licensures

- 2002 Medical licensure
- 2007 Surgical licensure
- 2009 Neurosurgical licensure
- 2013 Interventional neuroradiology licensure

Education

- Fellowship

05/2008~08/2008	Fellow, Cerebrovascular Research Center, University of California, San Francisco, California, USA. Mentor: Michael T. Lawton, MD.
07/2010~08/2012	Fellow, Endovascular neuroradiology, National Taiwan University Hospital, Taipei, Taiwan. Mentor: Hon-Man Liu, MD.
08/2012~07/2013	Research Fellow, Department of Neuroradiology, Toronto Western Hospital, University of Toronto, Toronto, Ontario, Canada Mentor: Karel terBrugge, MD.; Timo Krings, MD, PhD

Academic positions

2020~	Assistant Professor, School of Medicine, College of Medicine, Taipei Medical University
2013~2020	Lecturer, School of Medicine, Fu Jen Catholic University

■ Residencies

07/2003~06/2009	Division of Neurosurgery, Department of Surgery, National Taiwan University Hospital. Chair and program director: Yong-Kwang Tu, MD.

■ Undergraduate/Graduate

09/1996~06/2002	Department of Medicine, College of Medicine, National Taiwan University, Taipei, Taiwan. Degree: MD

Subspecialty

1. Interventional Neuroradiology
2. Stroke treatment
3. Cerebrovascular surgery
4. Cerebrovascular anatomy

出血性腦中風：個管師所關心的議題

ABSTRACT

出血性腦中風是最具破壞性的中風類型之一，即使在急性治療進步的今日，仍具高死亡率與致殘率。對個管師而言，了解蜘蛛膜下腔出血（subarachnoid hemorrhage）、高血壓性深部出血、葉性出血以及與類澱粉血管病變相關之出血的差異，對於後續的照護追蹤、用藥管理與再發風險預防至關重要。

本演講將綜述出血性腦中風的分類與臨床意義，其中，會特別講述抗血栓藥物在腦出血過後停用及重啟的觀念，以及神經影像生物標記（如微出血、皮質表層含鐵沈積）的臨床應用重點，協助個管師在亞急性與長期照護階段中，結合臨床證據與多專業團隊合作，達成以病人為中心的整合性照護。

1101 301_1120-1150

CURRICULUM VITAE

林馥郁 / Fu-Yu Lin

CURRENT PROFESSIONAL POSITION:

中國醫藥大學附設醫院神經部主治醫師

Dept. of Neurology, China Medical University Hospital, Taiwan

EDUCATION:

1998.7-2003.6 高雄醫學大學學士後醫學系
School of Post-Baccalaureate Medicine,
Kaohsiung Medical University, Kaohsiung, Taiwan

PROFESSIONAL EXPERIENCE:

2016 - Present 中國醫藥大學神經部主治醫師
Attending Physician, Department of Neurology, China Medical University Hospital, Taichung, Taiwan

2007 - 2010 台灣大學附設醫院雲林分院神經部主治醫師
Attending Physician, Department of Neurology, National Taiwan University Hospital Yunlin branch, Yunlin, Taiwan

腦中風的初級與次級預防、危險因子管理

ABSTRACT

腦中風是全球導致殘障與死亡的重要原因，其防治策略可分為初級預防與次級預防。個案管理師在長期照護與教育中扮演關鍵角色，需協助病人與家屬正確認識危險因子，落實生活型態調整與藥物治療，以降低疾病陷與再發風險。

初級預防的目標是避免首次中風發生。主要危險因子包含高血壓、糖尿病、高血脂、心房顫動、抽菸、肥胖等。臨床上，高血壓是最重要且可治療的危險因子，持續監測與控制血壓能顯著降低風險。糖尿病患者須兼顧血糖與血壓、血脂的整合控制。抽菸與飲酒需以健康促進介入，協助病人逐步戒菸、減量飲酒。飲食與運動習慣亦至關重要，建議均衡飲食，每週規律運動，維持理想體重。

次級預防旨在降低腦中風復發風險。對缺血性腦中風患者，必需根據其致病病因使用適當的抗血栓藥物，包括阿斯匹靈等。對心房顫動個案，口服抗凝血劑是關鍵。高血壓、糖尿病、高血脂的嚴格控制仍是核心。對與腦梗塞相關的內頸動脈高度狹窄的病人，需考慮內頸動脈支架置放；使用抗凝血劑後仍發生腦梗塞的患者，需考慮左心耳封堵手術。

腦中風防治不僅依賴醫療，更需跨領域合作與持續追蹤。初級與次級預防的有效執行，能大幅降低腦中風的發生。個案管理師透過健康教育、追蹤與協調，協助病人理解疾病、提升服藥依從性，並監測危險因子控制狀態；作為推動者、協調者與陪伴者，能將專業知識轉化為日常生活的實踐，達到病人長期健康與生活品質提升的目標。

1101 301_1330-1400

CURRICULUM VITAE

林清煌 / Ching-Huang Lin

CURRENT PROFESSIONAL POSITION:

高雄榮民總醫院神經科主治醫師

Dept. of Neurology, Kaohsiung Veterans General Hospital, Taiwan

EDUCATION:

起-始 國立陽明交通大學醫學系

School of Medicine, College of Medicine, National Yang Ming Chiao Tung University , Taiwan

起-始 國立中山大學生物科學博士

Ph.D., in Biological Sciences, National Sun Yat-sen University, Taiwan

國立中山大學高階經營管理碩士

National Sun Yat-sen University's Executive Master of Business Administration (EMBA), Taiwan

PROFESSIONAL EXPERIENCE:

2006-now 高雄榮民總醫院神經內科主治醫師

Attending Physician, Kaohsiung Veterans General Hospital, Taiwan

2023-now 教育部定神經科副教授

Ministry-appointed Associate Professor of Neurology, Taiwan

RECENT RESEARCH PROJECTS:

1. Early prediction of functional outcomes and recovery in patients after acute ischemic stroke.
2. Utilizing the Integrated Platform of Holistic Education (IPHE) to Enhance Holistic Healthcare Capabilities.

中風品質指標及改善、資料管理

ABSTRACT

本課程由高雄榮總林清煌醫師主講，針對中風個案管理師，深入解析中風照護品質指標、流程改善策略及資料管理實務，目標是賦能個管師提升臨床成效與資料管理能力。

一、品質指標的重要性

中風是導致失能、死亡與再發的重大疾病。高品質照護能提升病人功能恢復、減少死亡與併發症、預防再發。品質指標的核心價值在於提升病人安全（減少醫療錯誤）、優化治療成效（確保關鍵時間內給予最佳治療）、改善生活品質（降低失能、促進獨立性）。

二、課程主軸與學習目標

課程聚焦三大主軸：

1. 品質指標：掌握台灣與國際中風照護標準。
2. 流程改善：優化急性期與復健轉銜流程。
3. 資料管理：確保數據可靠性與價值轉化。

學員需能精準定義與解讀指標、識別流程瓶頸、提升資料管理能力，並運用數據推動持續改善。

三、中風品質管理常見痛點

1. 指標定義不一，缺乏統一字典與版本控制。
2. 資料斷裂與孤島，跨系統資料難整合。
3. 跨單位銜接困難，責任不清。
4. 數據難以轉化為具體行動，QI工具應用不足。

四、個管師的核心角色

個管師是跨單位協作的橋樑，負責指標監測與回報、資料協調與管理、品質改善推動、病人照護與衛教。需確保數據準確、即時，並參與品質改善專案，將指標理念融入日常照護與衛教。

五、台灣與國際品質指標

台灣醫策會、JCI、AHA/ASA等均有中風品質指標，包括SAH/ICH評估、復健評估、IV-tPA時效、再住院率、戒菸衛教等。國際指標如STK系列（VTE預防、抗栓治療、溶栓時效、衛教、復健評估）、CSTK（NIHSS、mRS、DTP等）皆強調時效與療效。

六、流程優化與標準化

急性期關鍵指標如DNT（門到針時間）、DTP（門到穿刺時間）、D2I（門到影像時間）等，需精確記錄時間戳。縮短DNT的十大作法包括組成中風團隊、制定SOP、啟動Stroke Code、並行流程、預先準備、護理再教育、工具制訂、個案檢討、簡化流程、獎勵團隊。並聯減時策略如到院前通報、直達CT、同步抽血等，有效縮短流程。

七、資料管理與品質稽核

資料治理需標準化、可重複、可稽核，建立資料字典、變項表，確保欄位定義一致。稽核規則包括完整性、合理性、交叉檢核。TSR登錄與病歷需定期比對，抽樣回溯與即時警示

系統協助監控資料品質。個資保護則強調去識別化、資料最小化、存取控管、加密與稽核軌跡。

八、持續改善與PDCA循環

品質改善需聚焦影響度高且可行的問題，運用魚骨圖、5Why等工具進行根因分析。PDCA循環（計畫-執行-檢查-行動）以小規模試行、快速迭代方式推動改善。成效評估除過程指標外，更關注病人結果（如失能率、死亡率、再住院率）與安全性指標。

九、教育訓練與標竿學習

標準化流程與教育訓練是品質提升的基礎。個管師需定期參與在職教育、跨部門交流、外部研討會與認證，並透過導師制度傳承經驗。院內外標竿學習有助於吸收成功經驗，推動內部改善。

十、資料流與合規管理

資料流需串接院內系統、登錄平台與指標平台，確保數據順暢流動。合規管理則需遵循個資法、健保資料再運用規範，落實權限控管與稽核機制，防範數據洩漏與目的外使用。

總結

中風個管師在品質指標監測、資料管理、流程改善、病人照護與團隊協作中扮演關鍵角色。唯有建立標準化流程、精準資料管理、持續PDCA改善，並強化教育訓練與合規管理，才能有效提升中風照護品質，最終改善病人結局。

1101 301_1400-1430

CURRICULUM VITAE

紀淑靜

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現職

2024.3.~迄今　　奇美醫院院長室顧問

經歷

2013.8.-2024.1.　義大醫院醫療品質副院長
2003.2.-2013.7.　義大醫院護理部部長
2001.3.-2003.1.　義大醫院顧問

最高學歷

93.6.　國立成功大學醫學院護理系碩士

專長

急重症及內外科護理、護理行政、長期照護、醫療品質與病人安全

衛教溝通技巧及策略、情緒支持與照護障礙處理

ABSTRACT

以病人為中心.尊重病人的價值觀 信念及文化差異,根據病人的需求 理解力及即接受.

1101 301_1430-1500

CURRICULUM VITAE

劉子菁 / TZU CHING LIU

CURRENT PROFESSIONAL POSITION:

臺北榮民總醫院神經後期照護個管師

Dept. of Neurology, Taipei Veterans General Hospital, Taiwan

EDUCATION:

起-始　天主教輔仁大學護理系學士

Bachelor of Nursing, Fu Jen Catholic University, Taiwan

PROFESSIONAL EXPERIENCE:

2003.04-2018.06　腦中風加護病房護理師

Professional Nurse, Taipei Veterans General Hospital, Taiwan

2018.6-now　神經後期照護個案管理師

Stroke Case Manager, Taipei Veterans General Hospital, Taiwan

出院準備及追蹤：居家與長照資源、社會、社區、政策福利資源

ABSTRACT

隨著腦中風存活者及存活時間延長，許多病人及家庭在病人接受腦中風完整治療後，必須長期面對複雜的復健照顧議題，如治療後帶來的肢體不靈活或擔心再次復發等，為提供腦中風病人出院後持續性全方位的照護服務，減少病人及家屬的茫然無措，此堂課給予相關資源整理，並分享病人出院後利用通訊軟體，主動關懷病人出院後狀況，提供返家後照護，或所面臨困難及問題的諮詢與協助，使病人與家屬安心出院，放心照護。

1101 301_1520-1600

CURRICULUM VITAE

莊旺川 / Wang-Chuan Juang

CURRENT PROFESSIONAL POSITION:

高雄榮民總醫院 品質管理中心主治醫師兼科主任

Quality Management Center, Kaohsiung Veterans General Hospital, Taiwan.

EDUCATION:

1991-1999 國立台灣大學醫學系

College of Medicine, National Taiwan University

2005-2008 國立中正大學資訊管理學系碩士畢

M.D., Information Management, College of Management, National Chung-Cheng University, Taiwan.

2018-2023 國立中山大學企業管理學系醫務管理博士畢

Ph.D., Healthcare Management, College of Management, National Sun Yat-sen University, Taiwan.

PROFESSIONAL EXPERIENCE:

2001-2004 高雄榮民總醫院 內科部住院醫師

Resident, Department of Internal Medicine, Kaohsiung Veterans General Hospital, Taiwan

2005-2006 高雄榮民總醫院 急診部總住院醫師

Chief Resident, Department of Emergency, Kaohsiung Veterans General Hospital, Taiwan

2007-2018 高雄榮民總醫院 急診部主治醫師

Attending Physician, Department of Emergency, Kaohsiung Veterans General Hospital, Taiwan

2015-now 高雄榮民總醫院 品質管理中心 醫師兼科主任

Section Director, Quality Management Center, Kaohsiung Veterans General Hospital, Taiwan

醫療品質與人文素養專題：個管師對醫品病安該有的認知與態度

ABSTRACT

本課程以「醫療品質與人文素養」為主軸，探討個案管理師在醫療品質與病人安全（醫品病安）中的角色與心態。授課者莊旺川醫師以跨領域的醫學、資訊與管理背景，結合《孫子兵法》與《道德經》的智慧，闡述如何以「上善若水」的柔性思維與精實管理（Lean）的方法，推動醫療品質改善與組織文化變革。課程強調「工作即修行」，藉由工作歷程培養專業能力與心性修練，達到「以病人為中心」的醫療品質目標。

課程首先從認知的侷限與成長談起，以「達克效應」說明專業人員需警覺無知帶來的自信偏差，唯有不斷學習才能突破「認知天花板」。接著引用《孫子兵法》「道、天、地、將、法」之理，闡述醫療團隊與管理層應同心協力、秉持智信仁勇嚴的精神，共同實踐醫院願景與使命。

在策略層面，莊醫師以「上善若水」的哲學比喻推動品質改善時應有的態度——「該靜則靜、該動則動」，面對阻力以柔克剛，隨勢而行。課程亦將精實改善（Kaizen）融入實務案例，如急診胸痛D2B、腦中風rt-PA施打時間等，透過PDCA循環與關鍵績效指標（KPI）展現品質數據的改善動能。

此外，課程連結情緒管理與職場韌性，以《中庸》的「致中和」為修練核心，並強調「精實不是精簡」，而是去除浪費、創造價值的智慧實踐。最終以《了凡四訓》「天之發人，先發慧，後發福」作結，提醒醫療人員專業精進與修德並重，方能成就病人價值與組織永續。

期望學員學到的知識：

1. 理解醫品病安工作的核心精神與品質管理的系統思維。
2. 以「上善若水」的柔性策略面對改變與阻力，培養領導與協作智慧。
3. 應用PDCA與KPI等工具於臨床品質改善，建立數據導向的改善文化。
4. 體悟「工作即修行」之理念，培養情緒韌性與終身學習的態度。
5. 將醫療品質、人文素養與哲學智慧融合，成為具格局與深度的專業醫療人員。

1102 B2A_0830-0855

CURRICULUM VITAE

劉虹余 / Hung-Yu Liu

學歷

國立陽明大學醫學系

國立陽明交通大學腦科所博士

美國史丹佛中風中心研究員

現職

台北榮總神經醫學中心神經內科主治醫師

國立陽明交通大學醫學系神經學科兼任副教授

Epidemiology and Pathophysiological Mechanisms of Post-Stroke Cognitive Impairment

ABSTRACT

Post-stroke cognitive impairment (PSCI) is a common complication, with prevalence ranging from 30% to 70% depending on assessment timing, criteria, demographics, stroke subtype, and pre-stroke cognition. Meta-analyses report ~38% prevalence within the first year and ~44% at 2–6 months, while long-term follow-up shows over half of survivors remain affected after 10 years. Symptoms include memory decline, inattention, language problems, and executive dysfunction, leading to substantial disability. Risk is higher after severe or hemorrhagic stroke and among those with prior cognitive impairment. Taiwanese studies report similar rates, with 40% at 3 months and 50% at 12 months. Pathophysiological mechanisms involve disruption of the neurovascular unit and blood–brain barrier, neuroinflammation, oxidative stress, impaired clearance of amyloid and tau, and acceleration of neurodegenerative processes. Brain and cognitive reserve modulate vulnerability and recovery. PSCI represents a major determinant of long-term outcome, underscoring the need for improved prevention and treatment strategies.

1102 B2A_0855-0920

CURRICULUM VITAE

李剛伯 / Kang-Po Lee

CURRENT PROFESSIONAL POSITION:

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Dept. of Neurology, Kaohsiung Show Chwan Memorial Hospital, Kaohsiung, Taiwan

EDUCATION:

2009-2016 國立成功大學醫學院醫學系
School of Medicine, College of Medicine, National Cheng Kung University, Taiwan

2023-now 國立成功大學臨床醫學研究所博士班在學
Ph.D. Student, Institute of Clinical Medicine, College of Medicine, National Cheng Kung University, Taiwan

PROFESSIONAL EXPERIENCE:

2025–present Attending Physician, Dept. of Neurology, Kaohsiung Show Chwan Memorial Hospital, Taiwan

2023–2025 Attending Physician, Dept. of Neurology, Tainan Sin-Lau Hospital, Sin-Lau Medical Foundation, the Presbyterian Church in Taiwan, Taiwan

2021–2023 Attending Physician, Division of Neurology, E-DA Hospital, Kaohsiung, Taiwan

2017-2021 Residency, Chief Residency, Research fellowship, Dep. Of Neurology, National Chneg Kung University Hospital, College of Medicine, National Cheng Kung University, Taiwan

RECENT RESEARCH PROJECTS:

1. The different microbiota and TMAO level between TOAST classification in stroke patients.

Clinical Manifestations, Screening, and Diagnostic Approaches for PSCI

ABSTRACT

Post-stroke cognitive impairment (PSCI) is a common but often overlooked sequela, affecting 30–70% of stroke survivors. Its clinical manifestations extend beyond memory loss to include deficits in attention, executive function, language, and visuospatial skills, frequently accompanied by depression, apathy, or sleep disturbances. PSCI can emerge early, within 3–6 months after stroke due to acute structural damage, or later through small vessel disease progression, recurrent stroke, or neurodegeneration. Consensus guidelines recommend screening at 3–6 months post-stroke using tools such as MoCA or MMSE, with comprehensive testing reserved for confirmation. Early detection and systematic assessment are essential to optimize rehabilitation, prevent recurrent events, and improve long-term outcomes for stroke survivors.

1102 B2A_0920-0950

CURRICULUM VITAE

黃立楷 / Li-Kai Huang

CURRENT PROFESSIONAL POSITION:

雙和醫院神經科主治醫師

Attending Physician, Dept. of Neurology, Shuang-Ho Hospital, Taiwan

EDUCATION:

2000-2008 中國醫藥大學中醫學系

Bachelor of Chinese Medicine, China Medical College, Taiwan

PROFESSIONAL EXPERIENCE:

2014-Present 雙和醫院神經科主治醫師

Attending Physician, Department of Neurology, Taipei Medical University Shuang-Ho Hospital,Taiwan

2025- Present 台北醫學大學醫學院神經科助理教授

Assistant Professor, Dept. of Neurology, School of Medicine, College of Medicine, Taipei Medical University, Taiwan

RECENT RESEARCH PROJECTS:

1. Symptom-Based Stratification of Behavioral and Psychological Symptoms of Dementia (BPSD)
2. Integrating Molecular and Digital Biomarkers for Objective Evaluation of Music Therapy: Toward a Multi-Modal Assessment Framework

Therapeutic Strategies and Long-term Management of PSCI

ABSTRACT

Post-stroke cognitive impairment (PSCI) is highly prevalent, driving disability, caregiver burden, and long-term care needs. No drug is specifically approved for PSCI. Dementia therapies such as cholinesterase inhibitors (donepezil, rivastigmine, galantamine) and the NMDA receptor antagonist memantine may provide modest cognitive benefits, especially in mixed dementia, but evidence remains limited. Data on nootropics (Actovegin, Cerebrolysin), dopamine agonists, and selective serotonin reuptake inhibitors are inconsistent, insufficient for routine use. Because vascular mechanisms underlie PSCI, risk-factor control is central. Antihypertensives (ACE inhibitors, ARBs), antidiabetic agents (SGLT2 and DPP-4 inhibitors, GLP-1 receptor agonists), and statins may confer indirect benefit via vascular protection, though trial results are inconclusive.

Non-pharmacological strategies are essential adjuncts. Non-invasive brain stimulation—repetitive transcranial magnetic stimulation (rTMS) and transcranial direct current stimulation (tDCS)—shows promise for memory, attention, and executive function. Structured cognitive rehabilitation (computer-based adaptive training, dual-task paradigms) and multisensory or music therapies enhance specific domains. Complementary approaches such as acupuncture, Tai Chi, and exercise appear particularly valuable in chronic stroke survivors.

Long-term management should integrate secondary prevention—control of blood pressure, lipids, glucose, smoking cessation, physical activity, weight management, and treatment of sleep apnea—together with cognitive stimulation, education, and social engagement. Large-scale trials (e.g., DISCOVERY) aim to clarify mechanisms and guide precision interventions.

In sum, PSCI care requires individualized pharmacotherapy combined with neuromodulation, rehabilitation, and aggressive vascular risk management. Priorities for research include high-quality randomized trials to confirm efficacy and develop scalable care models that reduce disability and improve quality of life for stroke survivors.

1102 B2A_1110-1150

CURRICULUM VITAE

Hugh Stephen Markus

Education and Qualifications

1981	Clare College, Cambridge B.A. hons. Class 1
1984	Oxford University Medical School BM Bch.
1987	M.R.C.P. (London)
1994	D.M. (Oxford)
1999	F.R.C.P. (London)
2017	F Med Sci

Present Appointment

Professor of Stroke Medicine, University of Cambridge 2013-
Honorary Consultant Neurologist, Cambridge University Hospitals NHS Foundation Trust 2013-
Professorial Fellow Clare Hall Cambridge 2018-

Previous Appointment

Jan 2000-July 2013 Foundation Professor of Neurology, St George's University of London, London, SW17 ORE and Honorary Consultant Neurologist, St George's NHS Healthcare Trust

I am an academic clinical neurologist with a special interest in stroke. I divide my time between looking after stroke patients, and leading a research team using genetic and imaging techniques to investigate mechanisms of, and develop new treatment approaches for, stroke. My research has a particular focus on cerebral asmall vessel disease and vascular cognitive impairment.

Honours / honorary fellowships

Fellow European Stroke Organization 2009
Honorary Fellow Australian Stroke Society 2009
NINR Senior Investigator Award 2013, renewed 2018
Honorary member of the American Neurological Association 2013
Fellow Academy of Medical Sciences 2017
World Stroke Organisation prize for stroke research 2023
British and Irish Stroke Physicians Presidential award 2023

Major Editorial roles:

Editor in Chief International Journal of Stroke (2020-)
European Editor Stroke (2005-10)

Associate Editor - Frontiers of Neurology (2017-2019)
Editor-in-Chief - Stroke Review (1997-2006)
Editorial board of many other journals

Achievements in Clinical Care

I trained as a neurologist but my clinical work is now focused on the care of patients with, and at risk of, stroke. I have played a leading role in developing stroke services both locally and nationally.

As clinical lead for Stroke at St George's Hospital from 2000-2013 I led complete revision of stroke services, developing a comprehensive stroke service including a regional hyerpacute stroke unit, which was nationally recognized as being a centre of excellence and rated the top stroke service in England in the 2010 RCP Sentinel Stroke Organisational Unit

I have developed and run a National referral service for patients with genetic forms of stroke particularly CADASIL, including an innovative telemedicine service allowing patients from throughout the UK in their own homes (Walsh J, Markus HS. Stroke. 2019;50:750-753), a dedicated information website (www.cadasil.co.uk), and work closely with patients and families as a patron for a patient and carers support group (CADASIL support UK).

Cerebral small vessel disease – what new?

ABSTRACT

Cerebral small vessel disease (SVD) causes a quarter of all ischaemic strokes (lacunar stroke), is the major cause of intracerebral haemorrhage, and is the most common pathology underlying vascular dementia. In addition, it increases the probability that neurodegenerative pathology such as Alzheimer's will r result in clinical dementia. Despite its enormous impact there are few proven treatments beyond control of cardiovascular factors.

In this talk, I will discuss new information on pathogenesis including the role of increased blood brain barrier permeability and glymphatic dysfunction. I will summarise current knowledge of management of this condition, discuss recent data on the importance of intensive blood pressure control, and discuss how new understanding of disease mechanisms may lead to better treatment approaches.

1102 B2B_0830-0855

CURRICULUM VITAE

蔡承恩 / Chen-En Tsai

職稱：
主治醫師

現任職務：
馬偕神經科主治醫師

學歷：
馬偕醫學院醫學系畢業

經歷：
- 馬偕紀念醫院神經內科 住院醫師
- 馬偕紀念醫院神經內科 主治醫師

學會與認證：
- 神經科學會
- 動作障礙學會
- 癲癇學會

Clinical Significance and Treatment for PFO and ESUS

ABSTRACT

Embolic Stroke of Undetermined Source (ESUS) presents a complex challenge in secondary stroke prevention, necessitating highly individualized diagnostic and therapeutic plans based on specific patient circumstances.
This report will begin by reviewing the ESUS management guidelines. Subsequently, we will explore Patent Foramen Ovale (PFO), covering its characteristics and potential risks, the mechanisms by which it may cause stroke, the standardized process required for definitive diagnosis, and current PFO treatment recommendations.
Finally, a clinical case analysis will be used to illustrate the practical application of these guidelines in real-world clinical practice.

1102 B2B_0855-0920

CURRICULUM VITAE

葉漢根 / Hon-Kan Yip

國籍：中華民國(臺灣)
性別：男
出生日期：1958-11-19
聯絡地址：高雄市鳥松區大埤路123號高雄長庚醫院心臟內科
聯絡電話：0975056108
E-mail address：han.gung@msa.hinet.net
畢業學校名稱：高雄醫學大學(醫學系)

現職及與專長相關之經歷

2008/07～迄今	高雄長庚醫院心臟內科教授級主治醫師
2017/03～迄今	長庚大學部定教授

經歷：

2010/08～2017/03	長庚大學部定副教授
2005/07～2008/06	高雄長庚醫院心臟內科副教授級主治醫師
2002/07～2005/06	高雄長庚醫院心臟內科助理教授級主治醫師
1997/07～2002/06	高雄長庚醫院心臟內科主治醫師
1994/06～1996/06	高雄長庚醫院心臟內科研究員
2003/08～2010/07	長庚大學部定副教授
1991/07～1994/06	高雄長庚醫院內科住院醫師
1990/05～1991/05	高雄醫學院實習醫師

專長與研究方向有關之學門及次領域

1. 幹細胞治療於心血管疾病、腦中風、腎病變、急性呼吸窘迫症及敗血症之臨床試驗研究
2. 全面性心臟疾病照護
3. 複雜性冠狀動脈介入性心導管
4. 心導管檢查
5. 頸動脈阻塞支架網置放術
6. 使用葉克膜治療心因性休克病患
7. 透過導管置入人工主動脈瓣膜的微創手術
8. 左心耳封堵手術
9. 心血管疾病臨床與轉譯研究
10. 幹細胞治療之轉譯醫學研究

11. 震波治療之轉譯醫學研究
12. 肝、肺、腎、大腸、膀胱等疾病動物模式
13. 動物模型癌症與藥做研究

獲獎經驗

1. 自2021始至2025年（共5次）給史丹佛大學（Stanford University）評選為全球前2%頂尖科學家
2. 台灣天下雜誌評選為台灣百大名醫

簡歷介紹

葉漢根教授於1991年在台灣高雄醫學院醫學系獲得學士學位。台灣高雄長庚醫院完成了住院醫師培訓，並於1996年晉升為心臟內科主治醫師。葉教授自2008年以來一直為高雄長庚醫院心臟內科教授，是心血管內科專家中的專家，臨床專長為全面性心臟疾病照護、使用葉克膜治療心因性休克與介入性心導管手術，並累積超過一萬例介入性心導管手術經驗，在國際心血管內科領域享有較高聲譽。葉教授帶領60人研究團隊專注於臨床與基礎結合的轉譯醫學研究，研究興趣包括心血管疾病，發炎反應，幹細胞和轉譯醫學領域的其他研究，研究跨足心臟、腎臟、肺臟、肝臟、大腸、膀胱等疾病動物模式，探討疾病致病機轉，輔以幹細胞治療、震波治療或是新的藥物應用，企圖發展疾病更好的治療模式。每年都申請通過、獲得科技部和長庚研究計劃的支持。研究成果發表超過四百七十篇SCI論文，其成果時常受邀至國內外大型研究會議發表，並為該領域排名前十名的期刊所收錄。

Update of the Roles of LAAO and AF Ablation in Stroke Prevention

ABSTRACT

Stroke, a growing epidemic, remains the 2nd leading cause of death and the 3rd leading cause of combined death and disability worldwide. Although various etiologies are implicated in stroke, atrial fibrillation (AF)-related embolic stroke remains one of the common causes of ischemic stroke worldwide.

Currently, New Oral Anticoagulants (NOACs) is the golden standard therapy for preventing AF-related embolic stroke. On the other hand, although Catheter ablation has highly successful rate of conversing the AF into sinus rhythm, the AF recurrent rate after ablation in long-term follow-up is still relatively high. Of importance is that there has no strong evidence to support that successful catheter ablation of AF could reduce the incidence of embolic stroke during the long-term follow up, highlighting that the long-term NOAC treatment after catheter ablation procedure is still recommended.

In our daily clinical practice, we observe that a quite lot of AF patients is contraindicated for NOAC use due to NOAC induced bleeding complications. Additionally, some patients would experience recurrent embolic stroke even undergoing the NOAC therapy. These high-risk group of patients, therefore, need a safe and effective alternative therapeutic modality.

Growing data have shown that left atrial appendage occlusion (LAAO) is an effective therapy for preventing the embolic stroke in those patients who are at high risk of bleeding complications due to NOAC use or experience of recurrent stroke even undergoing the NOAC treatment. Here, I will discuss the clinical studies and share my experience on the outcomes of LAAO treatment for the recurrent stroke/high risk of bleeding patients.

1102 B2B_0920-0950

CURRICULUM VITAE

謝孟倉 / Meng-Tsang HSIEH

CURRENT PROFESSIONAL POSITION:

奇美醫院腦中風中心主任暨神經內科主治醫師
Director of Stroke Center and Attending Physician of Department of Neurology, Chi Mei Medical Center, Tainan, Taiwan
國立中山大學學士後醫學系助理教授
Assistant professor, School of Medicine, College of Medicine, National Sun Yat-sen University, Kaohsiung, Taiwan

EDUCATION:

2003/09-2010/06	國立成功大學醫學系 Bachelor's degree, School of Medicine, College of Medicine, National Cheng Kung University, Tainan, Taiwan
2017/09-	國立成功大學臨床醫學研究所博士候選人 Ph.D. candidate, Institute of Clinical Medicine, National Cheng Kung University, Tainan, Taiwan

PROFESSIONAL EXPERIENCE:

2015/08-2023/07	義大醫院神經科主治醫師暨腦中風中心/失智共照中心主任 Attending Physician of Department of Neurology, Director of Stroke Center and Center for Integrated Dementia Care, E-Da Hospital, Kaohsiung, Taiwan
2017/09-2022/11	義守大學醫學院講師 Instructor, College of Medicine, I-Shou University, Kaohsiung, Taiwan; 義守大學醫學系助理教授 Assistant professor, School of Medicine, I-Shou University, Kaohsiung, Taiwan

RECENT RESEARCH PROJECTS:

1. miRNA and mitochondrial function in ischemic stroke
2. Mechanism of ischemic stroke etiology

Optimization of DOAC Use for Patients After Ischemic and Hemorrhagic Stroke

ABSTRACT

Direct oral anticoagulants (DOACs) are widely used for secondary prevention in patients with atrial fibrillation and other cardioembolic sources of stroke. The key challenge is deciding when and how to start or restart these agents after an ischemic or hemorrhagic stroke. In ischemic stroke, earlier use of DOACs—within several days for small infarcts, or after one to two weeks for larger ones—has been linked to fewer recurrent embolic events without a major increase in bleeding risk. Stroke severity, infarct size, and imaging features remain important guides for timing. After intracerebral hemorrhage, the decision is more difficult. The risk of rebleeding is highest in the first weeks, but not resuming anticoagulation carries a higher risk of ischemic stroke. Current data suggest that restarting DOACs around 4–8 weeks may be reasonable for carefully selected patients, particularly if blood pressure and other risk factors are well controlled. Compared with warfarin, DOACs consistently show lower rates of intracranial bleeding and at least equal, if not better, protection against ischemic events. Outcomes depend heavily on tailoring the decision to individual risk, using both clinical judgment and imaging. Overall, optimizing DOAC use after stroke means balancing protection against recurrent ischemia with the risk of bleeding, and making decisions that fit each patient's situation.

1102 B2B_1010-1040

CURRICULUM VITAE

林俊甫 / Chun-Fu Lin

CURRENT PROFESSIONAL POSITION:

台北榮民總醫院神經醫學中心 一般神經外科主治醫師

Dept. of General Neurosurgery, Taipei Veterans General Hospital, Taipei, Taiwan

EDUCATION:

起-始	台北醫學院醫學系
	Medical Doctor, Taipei Medical College, Taiwan

PROFESSIONAL EXPERIENCE:

2007	伊利諾大學芝加哥校區腦血管研究員
	Research Fellow, Department of Cerebrovascular Surgery, University of Illinois at Chicago, USA
2009	加州大學舊金山校區，腦血管外科進修
	University of California, San Francisco, USA
2010	靜岡國立癲癇病院進修
	National Epilepsy Center, Shizuoka, Japan
2012-now	台北榮總一般神經外科主治醫師
	Attending physician, Department of General Neurosurgery, Taipei Veterans General Hospital, Taiwan

RECENT RESEARCH PROJECTS:

1. 人類癲癇腦中海馬齒狀回顆粒細胞的形態學和分子特徵分析(整合型總計畫名稱--人類癲癇顆粒細胞中的基底樹突：病理生理學、微結構與臨床相關性)
2. 頑性癲癇病人海馬迴之麩胺酸代謝恆定及神經細胞軸突出芽現象(整合型總計畫名稱--人類癲癇顆粒細胞中的基底樹突：病理生理學、微結構與臨床相關性)

Advances in Brain AVM Surgery and Lessons from Clinical Experience

ABSTRACT

Brain arteriovenous malformation (AVM), though rare in prevalence, is an important cause of intracerebral hemorrhage, especially in young patients. Surgical resection, radiosurgery, and embolization are important tools intreating AVMs. Surgical resection is very technique-demanding and time consuming. After ARUBA trial, however, interventions for cerebral AVMs has been declining. We reviewed literature and our own experience. Most patients benefit from surgical intervention and ended up in good outcome. With judicious selection of cases, surgical treatment of cerebral AMVs should still be an important skill for neurosurgeons.

1102 B2B_1040-1110

CURRICULUM VITAE

李政家 / Cheng-Chia Lee

現職

Aug 2014 - present	台北榮民總醫院 神經醫學中心 神經外科 主治醫師
Aug 2022 - present	國立陽明交通大學醫學系 兼任副教授
Jul 2014 - present	國際加馬刀研究基金會(IRRF)委員
Jun 2020 - present	亞洲術中神經功能監測學會(AOSIN)委員
Sep 2023 - present	亞澳聚焦超音波學會(APFUS)委員
May 2025 - present	台灣疼痛醫學會理事
Nov 2021 - present	台灣中青年神經外科學會理事
Sep 2023 - present	台灣立體定位功能性神經外科及放射手術學會理事

經歷

Mar 2007 - Jul 2014	台北榮民總醫院 神經醫學中心 神經外科 住院醫師/總醫師/臨床研究員
Jan 2013- Apr 2014	美國維及尼亞大學 神經外科 研究員
Oct 2014 - 2021	台灣立體定位功能性神經外科及放射手術學會 祕書長
May 2021 - 2025	台灣疼痛醫學會監事 副祕書長

學歷

Aug 1998 - Jun 2005	國立陽明大學醫學系畢業(MD)
Aug 2014 - Jan 2018	國立陽明大學腦科學研究所畢業(PhD)

研究計劃及論文

2017	科技部：加馬刀治療腦部動靜脈畸型前後、神經心理量表與4D血管攝影結果之對應
2018-2021	科技部：始於扣帶皮層之癲癇發作及立體定位深部腦電波之研究：症狀學、訊號影像化、及致癲灶切除手術成功率分析
2021-2024	國家衛生研究院(NHRI-EX110-11006NC)：膠質細胞中、麩胺酸鹽的調控在癲癇症的角色
2021-2023	科技部: 使用人工智慧預測聽神經瘤經放射手術之預後
2018-2021	榮台聯大整合型：立體定位深部腦電波與大腦網路於MR上無病灶、難治型癲癇之應用
2024	科技部：跨中心多參數腦部腫瘤磁振影像與診斷報告資料庫及治療決策系統建置

2009-2024　期間發表>280篇SCI論文

獲獎

1. 最佳海報，台灣神經外科醫學會/財團法人登美腦瘤教育基金會，2015/2016/2017
2. 最佳論文，台灣神經外科醫學會/杜世彬博士論文獎，2015/2016/2017/2018/2019
3. 青年學術獎，台灣疼痛醫學會，2017
4. 青年神經外科醫師獎(Young Neurosurgery Award (Top 15))，世界神經外科學會(WFNS), 2017
5. 年輕學者國際癲癇會議獎，台灣癲癇醫學會，2017/2018/2019/2020
6. 臺北榮總109/110年醫師創新獎佳作/第一名/第三名，2020/2021/2022
7. 國家新創獎-臨床新創獎(智慧腦醫之放射線治療風險評估軟體系統-腦血管動靜脈畸型)，2022
8. 未來科技獎(DeepBT腦瘤智豐精準醫療系統-沿時間軸病灶偵測與放射手術療效預測)，2022
9. 國家新創獎-國家新創精進獎(DeepBT腦瘤智慧精準醫療系統-沿時間軸病灶偵測與放射手術療效預測)，2023

Endoscopic and Stereotactic Approaches for Intracerebral Hemorrhage Treatment

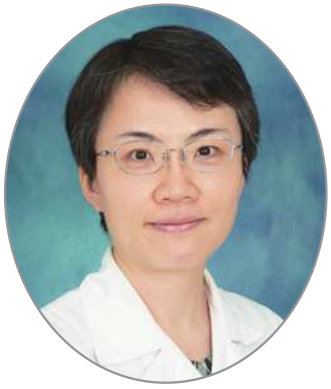
ABSTRACT

Intracerebral hemorrhage (ICH) remains one of the most devastating forms of stroke, with high mortality and morbidity despite advances in medical management. Surgical intervention has been explored to improve hematoma evacuation and reduce secondary brain injury. Among the available techniques, endoscopic and stereotactic approaches have gained increasing attention due to their minimally invasive nature. Endoscopic evacuation allows direct visualization of the hematoma cavity with controlled aspiration, while stereotactic catheter placement facilitates targeted clot lysis or aspiration with minimal disruption of surrounding brain tissue. Both approaches aim to reduce surgical trauma compared to conventional craniotomy and have demonstrated encouraging results in selected patient populations. Recent clinical trials and meta-analyses suggest that these minimally invasive methods can improve functional outcomes, particularly when performed early and in deep-seated hematomas. However, patient selection, timing of intervention, and standardization of surgical protocols remain areas of ongoing investigation. This review summarizes the current evidence, technical considerations, and future directions of endoscopic and stereotactic approaches for ICH treatment, highlighting their potential to reshape the surgical management paradigm of hemorrhagic stroke.

1102 B2B_1410-1440

CURRICULUM VITAE

葉馨喬 / Shin-Joe Yeh



CURRENT PROFESSIONAL POSITION:

臺大醫院神經部主治醫師

Dept. of Neurology, National Taiwan University Hospital, Taiwan

EDUCATION:

1996-2003 國立臺灣大學醫學系
Bachelor of Medicine, National Taiwan University, Taiwan

2007-2009 國立臺灣大學臨床醫學研究所
Master's degree, Graduate Institute of Clinical Medicine, National Taiwan University, Taiwan

2013-2022 國立臺灣大學解剖學暨細胞生物學研究所
Ph. D., Graduate Institute of Anatomy and Cell Biology, National Taiwan University, Taiwan

PROFESSIONAL EXPERIENCE:

2024-now 臺大醫學院神經科臨床副教授
Clinical Associate Professor, Department of Neurology, College of Medicine, National Taiwan University

2019.9-2020.4 美國康乃爾大學醫學院研究員
Research Fellow, Feil Family Brain & Mind Research Institute, Weill Cornell Medicine, USA

2012-now 臺大醫院神經部主治醫師
Attending Physician, National Taiwan University Hospital, Taiwan

RECENT RESEARCH PROJECTS:

1. Penumbra destination in acute ischemic stroke
2. Celebrex treatment for acute intracerebral hemorrhage

1102 B2B_1500-1530

CURRICULUM VITAE

陳廷耀 / TY Chen

現職職稱：

高雄長庚醫院 神經內科部/腦血管科, 主治醫師/副教授

長庚大學醫學系副教授

學歷：

私立中國醫藥學院 醫學系

經歷：

高雄長庚醫院神經內科部 部主任

高雄長庚醫院神經內科系 系主任

高雄長庚醫院神經內科系 副系主任

美國Wake Forest大學 神經內科(腦血管疾病, 神經超音波)研究員

台灣神經學學會理事

台灣神經重症醫學會理事

專長/研究領域：

Cerebrovascular disease, Neurosonology, Atherosclerosis, Dyslipidemia.

Honors and Awards:

1. Taiwan Society of Ultrasound in Medicine. 2011 Best article Award. Association of Anthropometric Measurements with Components of Metabolic Syndrome and Carotid Intima media Thickness in Young Healthy Individuals.
2. Morris Coole Prize 2010, The Award of International League Againts Epilepsy (ILAE), the best paper in "Epilepsia: 2009. Long-term antiepileptic drug therapy contributes to acceleration of atherosclerosis. Epilepsia. 2009 June; 50(6):1579-1586.
3. Best article Award in 2005 Taiwan Stroke Society Annual Meeting. Prehospital delay after acute stroke in Kaohsiung, Taiwan. Stroke. 2004 Mar;35(3):700-4.

1102 B2B_1530-1600

CURRICULUM VITAE

劉濟弘 / Chi-Hung Liu

學歷：

2022/09~進修中　台灣大學健康政策與管理研究所博士
2014/09~2018/01　長庚大學臨床醫學研究所碩士
1997/09~2004/06　中國醫藥大學醫學系學士

現職及與專長：

1. 長庚大學現職

2023/08~迄今　長庚大學醫學系副系主任
2023/08~迄今　長庚大學醫學系臨床課程委員會副主席
2023/08~迄今　長庚大學醫學系國際醫療事務與交換學生委員會主席
2023/08~迄今　長庚大學醫學系招生委員會委員
2023/08~迄今　長庚大學醫學系繁星推薦入學委員
2018/08~迄今　長庚大學醫學系助理教授

2. 長庚醫院現職

2024/07~迄今　財團法人林口長庚紀念醫院神經內科部副部主任
2023/07~迄今　財團法人林口長庚紀念醫院神經內科部教授
2022/07~迄今　財團法人林口長庚紀念醫院醫學教育委員會委員
2022/07~迄今　財團法人林口長庚紀念醫院院務委員會委員
2015/01~迄今　財團法人林口長庚紀念醫院師資培訓中心委員

3. 學會現職

2024/02~迄今　台灣神經重症醫學會副秘書長
2023/05~迄今　第24屆台灣神經學學會甄審委員會委員
2023/05~迄今　第24屆台灣神經學學會執業委員會委員
2023/05~迄今　第24屆台灣神經學學會監事
2023/01~迄今　中華民國醫用超音波學會節目委員會神經科召集委員
2021/05~2023/05　第23屆台灣神經學學會理事
2019/10~2021/05　第22屆台灣神經學學會秘書長

專長請自行填寫與研究方向有關之專長學門

1. 醫學教育
2. 腦血管疾病
3. 神經超音波
4. 臨床神經學

研究成果

Clinical research projects

主持人：

科技部研究計畫：

1. 106~108：以眼動儀輔助評估認知學習風格對於醫學生在醫學影像判讀的學習成效影響：以急性腦中風腦部電腦斷層影像為例(106-2511-S-182A-002-MY2)
2. 108~111：鼻咽癌患者接受質子放射治療後長期的局部神經血管病變: 世代追蹤研究(108-2314-B-182A-050-MY3)
3. 111~114：頭頸癌患者接受質子治療產生之放射免疫調節作用與局部神經血管病變之關聯性-世代追蹤研究(111-2314-B-182A-133-MY3)
4. 113~116：鼻咽癌患者接受光子或質子放射線治療後之認知功能變化與腦膠淋巴系統功能之關聯性-世代與巢氏病例對照混和設計研究(113-2314-B-182A-114-MY3)

長庚研究計畫:

1. 以翻轉教學法及標準化病人進行里程碑概念下的醫學生的神經學理學檢查技巧優化教學(CMRPG3G0261)
2. 抗發炎藥物在腦中風次級預防的臨床角色(CFRPG3L0011)
3. 頭頸癌患者在放射線治療後之神經血管長期併發症-以跨院區登錄為基礎的病歷回溯與前瞻追蹤混合世代研究(CMRPG3M0811)
4. 應用重點式照護超音波於神經重症及神經專科訓練課程的核心內容與評核工具：德菲法研究(CDRPG3P0011)

1102 201_0900-0950

CURRICULUM VITAE

陳韋欣 / WEI-HSIN CHEN

學歷：

2021/08~2023/06　義守大學醫務管理系碩士

2012/09~2014/06　台北護理健康大學護理系學士

現職：

2018/11~至今　高雄榮民總醫院品質管理中心組員

經歷：

2014/06~2017/06　成大醫院護理部護理師

專長

1. 醫療品質
2. 品質指標
3. 商業智慧工具(BI)

近五年內執行之研究計畫

2022/09　台灣醫學影像股份有限公司協同主持人
心跳停止(IHCA)早期警示預測AI模型22-CT10-14 (220823-2)(執行中，尚未結案)

2022/09　共同主持人
影響骨關節置換手術時間因素之研究22-CT11-03 (220908-1)(已結案)

指標稽核注意事項與管制圖的基本概念、品質改善專案與PDCA的撰寫

ABSTRACT

講述個管師在醫療品質與指標管理的角色，如何藉由品管工具達到品質管理，同時減輕工作負擔。

1102 201_1000-1050

CURRICULUM VITAE

吳婷婷 / Ting-Ting Wu

CURRENT PROFESSIONAL POSITION:

高雄榮民總醫院品質管理中心品質認證科科主任

EDUCATION:

起-始　高雄醫學大學護理學系
Bachelor of Medicine, China Medical College, Taiwan

起-始　大仁科技大學環境與職業衛生安全碩士
Ph.D., Graduate Institute of Clinical Medicine, Chang Gung University, Taiwan

PROFESSIONAL EXPERIENCE:

1. 教育部部定講師
2. 生策會SNQ (國家品質標章)競賽的口報人員。
3. 醫策會「單位推行組」護理管理e化競賽，榮獲銅獎。
4. 衛福部電子病歷績優醫院競賽，以『病歷無紙化、地球不暖化』榮獲銀獎。
5. 醫策會2020年國家醫療品質獎系統類卓越中心。
6. 擔任醫務企管部醫療費用組品管圈活動輔導員，院內2021年(第23期)品管圈競賽獲得第四名殊榮。
7. 中衛發展中心的2022年台灣持續改善競賽海報發表評選優等殊榮。
8. 2020年~2021年帶領團隊通過10項疾病照護品質認證，落實醫學中心任務。
9. 2023年接辦醫院評鑑醫療照護組評鑑業務及推動管考，2024年圓滿通過醫院評鑑，榮獲優等成績。

RECENT RESEARCH PROJECTS:

1. 臨床護理
2. 護理資訊
3. 醫療品質
4. 病人安全

品質改善專案與PDCA的撰寫、疾病認證的準備與臨床稽核

ABSTRACT

品質改善最常被提起的工具是PDCA循環（計劃、執行、檢查、行動），PDCA手法更是在醫院認證、競賽、評鑑、解決臨床業務時的利器，課程中將透過實務案例和分享實戰經驗，讓各職類同仁在執行業務困難時，能有效運用PDCA手法來解決問題，增加工作順暢度，提升工作效能及病人安全，另一方面，透過PDCA模式亦可橫向追蹤組織內部，將PDCA成果從個人升級為組織整體的成果，藉由書寫報告保存經驗，做為組織的共有知識，相信在面對未來各種挑戰或評鑑認證活動時，俾能更加從容自信。

2025年優秀論文獎得獎名單

台灣腦中風學會優秀論文獎

特優：林伯昱醫師（成大醫院）

論文：Investigating undiagnosed Fabry disease in young adults with ischemic stroke: A multicenter cohort study.

特優：林欣儀醫師（台大醫院）

論文：Impact of Age and Factor Xa Inhibitor Concentrations on Bleeding Risk in Patients with Atrial Fibrillation.

優等：姜振華醫師（雙和醫院）

論文：DWI-ADC mismatch predicts infarct growth rate and endovascular thrombectomy outcomes in anterior circulation stroke.

優等：傅傳修醫師（新竹台大醫院）

論文：Highfibrin and platelet clot predicts stroke recurrence or mortality after thrombectomy in patients with active cancer.

台灣腦中風學會終身成就獎

盧玉強醫師、關皚麗醫師、馬辛一醫師

台灣腦中風學會許重義教授榮譽獎

李孟醫師（嘉義長庚醫院）

演講主題：A Sketch of My Clinical Stroke Research.

日新紀念論文獎

陳志昊醫師（台大醫院）

論文：Intracerebral Hemorrhage in Patients With CADASIL: Additive Impact of the NOTCH3 R544C Variant and Hypertension?.

杜世彬博士紀念論文獎

特優：王其聖醫師（台北榮民總醫院）

論文：Assessment of patent foramen ovale closure in elderly patients with cryptogenic transient ischemic attack or stroke: Efficacy, safety, and potential age-related benefit.

優等：蔡穩穩醫師（奇美醫院）

論文：Liberal vs restrictive transfusion strategy for acute brain injury: A meta-analysis with trial sequential analysis of randomized clinical trials.

佳作：彭子強醫師（台中榮民總醫院）

論文：Evaluation of Long-term Radiation Effect in patients with CerebralArteriovenous Malformation treated using Stereotactic Radiosurgery.

腦血管疾病防治基金會高明見教授優秀論文獎

第一名：沈英琪醫師（台大癌醫）

論文：Prognostic Significance of the NOTCH3-SVD Staging in Individuals with the NOTCH3 p.R544C Variant.

第二名：陳奕翔醫師（基隆長庚醫院）

論文：Comparison of neuroprotective adjuvant treatments in patients with acute ischemic stroke after reperfusion therapy: A systematic review and network meta-analysis.

第二名：鄧喬欣醫師（長庚大學）

論文：Navigating Longitudinal Mixed-Methods Research As Early Career Nursing Scholars: Lessons From Real-World Studies.

年輕缺血性中風患者中潛在未診斷的法布瑞氏症：多中心隊列研究

林伯昱[1]、林典佑[1]、宋昇峯[2]、傅維仁[3]、許立奇[4]、湯頌君[5]、黃彥筑[6]、謝鎮陽[7]、許永居[2]、吳仁贏[1]、謝承錡[1]、宋碧姍[1]、陳志弘[1]
[1]成大醫院
[2]嘉義基督教醫院
[3]馬偕紀念醫院
[4]台北榮民總醫院
[5]臺大醫院
[6]嘉義長庚醫院
[7]台南新樓醫院

Investigating undiagnosed Fabry disease in young adults with ischemic stroke: A multicenter cohort study

Po-Yu Lin[1], Tien-Yu Lin[1], Sheng-Feng Sung[2], Helen L. Po[3], Li-Chi Hsu[4], Sung-Chun Tang[5], Yen-Chu Huang[6], Cheng-Yang Hsieh[7], Yung-Chu Hsu[2], Ren-Ying Wu[1], Cheng-Chi Hsieh[1], Pi-Shan Sung[1], Chih-Hung Chen[1]
[1]National Cheng Kung University Hospital, Tainan, Taiwan.
[2]Chiayi Christian Hospital, Chiayi, Taiwan.
[3]MacKav Memorial Hospital, Taiwan.
[4]Taipei Veterans General Hospital, Taipei, Taiwan.
[5]National Taiwan University Hospital, Taipei, Taiwan.
[6]Chiayi Chang Gung Memorial Hospital, Chiayi, Taiwan.
[7]Sin-lâu Hospital, Tainan, Taiwan.

Background: The global prevalence of ischemic stroke in young adults is increasing, leading to a significant social impact. Fabry disease is a recognized cause of ischemic stroke in young patients, and although disease-modifying treatments are available, further evidence is needed to confirm their effectiveness in reducing the incidence of ischemic strokes.
Aims: This study aimed to identify undiagnosed Fabry disease in young adult patients with ischemic stroke in a Taiwanese cohort.
Methods: This multicenter, prospective cohort study enrolled patients aged 20–55 years who had experienced an ischemic stroke or transient ischemic attack (TIA) within 10 days, from 1 January 2016 to 31 December 2020. Screening for Fabry disease was performed using a dry blood test to measure α-galactosidase activity in male patients and blood globotriaosylsphingosine (lysoGb3) levels in female patients. For patients with positive screen results, genetic diagnosis of Fabry disease was pursued through Sanger sequencing of the GLAgene, overing all exons and a segment of intron 4.
Results: A total of 977 patients (659 male, 68%) were enrolled from seven hospitals across Taiwan. Four patients (0.4%, all male) had positive screening results, and two patients (0.2%) were genetically diagnosed with Fabry disease. Case 1 had the GLA c.658C>T mutation and experienced ischemic stroke in the bilateral occipital regions. Case 2 had the GLA c.640-801G>A mutation and experienced an ischemic stroke in the left superficial watershed area.
Conclusion: The prevalence of undiagnosed Fabry disease in this cohort of Taiwanese young adults with ischemic stroke or TIA was 0.3% among the young male population. Understanding the prevalence of undiagnosed Fabry disease in young adults with ischemic stroke could help shape future Fabry disease screening policies.

年齡對心房纖維顫動病人活化第十因子抑制劑濃度及出血風險的影響

林欣儀[1, 2]、劉言彬[3]、賀立婷[3]、郭錦樺[2]、彭鈺峯[2]、黃織芬[1, 2, 4]、湯頌君[5,]、鄭建興[5]*
[1]台大醫院藥劑部
[2]台灣大學藥學系
[3]台大醫院內科部心血管中心
[4]台灣大學臨床藥學研究所
[5]台大醫院神經部腦中風中心

Impact of Age and Factor Xa Inhibitor Concentrations on Bleeding Risk in Patients with Atrial Fibrillation

Shin-Yi Lin[1, 2], Yen-Bing Liu[3], Li-Ting Ho[3], Ching-Hua Kuo[2], Yu-Fong Peng[2], Chih-Fen Huang[1, 2, 4], Sung-Chun Tang[5,], Jiann-Shing Jeng[5]*
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[2]School of Pharmacy, National Taiwan University, Taipei, Taiwan.
[3]Division of Cardiovascular Center, Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan.
[4]Graduate Institute of Clinical Pharmacy, National Tawain University, Taipei, Taiwan.
[5]Stroke Center and Department of Neurology, National Taiwan University Hospital, Taipei, Taiwan.

This study aimed to analyze differences in the exposure-response relationship for factor Xa inhibitors (FXaI) between patients aged ≥80 and <80 years. Patients with atrial fibrillation (AF) taking rivaroxaban, apixaban, or edoxaban were enrolled, and a single steady-state trough concentration was measured. FXaI concentrations were compared with the expected range reported in clinical trials to define high or low drug levels. The primary outcome was major bleeding, and the secondary outcome was ischemic stroke or transient ischemic attack (IS/TIA). From 2016 to 2023, 1,037 patients aged from 30 to 105 years were enrolled (average, 75.4±10.0 years; 33.8% were aged ≥80 years). During a median follow-up of 2.35 years, 48 major bleeding events and 32 IS/TIA events were observed. Although drug concentrations were similar between the two age groups, those aged ≥80years with high FXaI levels experienced a greater increase in major bleeding risk compared to those aged <80years with high levels (aHR 6.47 [2.07, 20.28] vs. 3.45 [1.15, 10.30]). Additionally, patients aged ≥80years without elevated FXaI levels also had a higher risk of major bleeding compared to those aged <80 years without elevated levels (aHR 2.39 [1.20, 4.76]). While low FXaI concentrations were associated with IS/TIA, the risk was not significantly different across age groups. In conclusion, despite similar FXaI concentrations, patients aged ≥80 years have a higher baseline risk of major bleeding and experience a greater increase in bleeding risk at high drug levels compared to those aged <80 years.

DWI-ADC不一致預測前循環腦中風梗塞進展速度與血管內取栓治療結果

姜振華[1,2]、劉家銓[1]、翁啟倫[3]、陳龍[4,5]、曹立[6]、陳彥廷[1,2]
[1]臺北醫學大學附設雙和醫院影像醫學部
[2]臺北醫學大學醫學院醫學系放射線科
[3]嘉義基督教醫院影像醫學科
[4]臺北醫學大學附設雙和醫院神經內科
[5]臺北醫學大學醫學院醫學系神經內科
[6]輔仁大學附設醫院影像醫學科

DWI-ADC mismatch predicts infarct growth rate and endovascular thrombectomy outcomes in anterior circulation stroke

Chen-Hua Chiang[1,2], Chia-Chuan Liu[1], Chi-Lun Weng[3], Lung Chan[4,5], Lillian Tsao[6], David Yen-Ting Chen[1,2]
[1]Department of Medical Imaging, Taipei Medical University Shuang Ho Hospital, Ministry of Health and Welfare, New Taipei City, Taiwan
[2]Department of Radiology, School of Medicine, College of Medicine, Taipei Medical University, Taipei City, Taiwan
[3]Department of Radiology, Ditmanson Medical Foundation Chia-Yi Christian Hospital, Chiayi, Taiwan
[4]Department of Neurology, Taipei Medical University Shuang Ho Hospital, Ministry of Health and Welfare, New Taipei City, Taiwan
[5]Department of Neurology, School of Medicine, College of Medicine, Taipei Medical University, Taipei City, Taiwan
[6]Department of Radiology, Fu Jen Catholic University Hospital, New Taipei City, Taiwan

Background: Current automatic software uses a fixed apparent diffusion coefficient (ADC) threshold (≤620×10^{-6} mm²/s) to quantify stroke volume before endovascular thrombectomy (EVT). Clinically, infarcts are visually detected by diffusion-weighted imaging (DWI) hyperintensity coupled with ADC hypointensity, which encompasses a broad range of ADC values, often exceeding the threshold. We investigated the clinical significance of large discrepancies between DWI hyperintense volumes and ADC ≤620×10^{-6} mm²/s volumes (DWI-ADC mismatch) on pre-EVT MRI.
Methods: This retrospective single-center study included consecutive patients with first-ever acute ischemic stroke who underwent EVT for symptomatic anterior circulation large vessel occlusion within 24 hours (January 2018–January 2020) and had high-quality pre- and post-EVT MRI. DWI-ADC mismatch was defined as a ratio of DWI hyperintense volume to ADC ≤620×10^{-6} mm²/s volume of ≥2. Demographics, clinical characteristics, procedural details, and outcomes were compared between mismatch and no-mismatch groups.
Results: Of 73 patients included, 20 (27.4%) had DWI-ADC mismatch. The mismatch group showed slower infarct growth (3.8 vs 7.5 mL/hour, P=0.04), significantly more parent artery stenosis (65% vs 20.8%, P<0.001), and a greater need for angioplasty/stenting (45% vs 17%, P=0.013). Imaging analysis showed a higher DWI reversal percentage (37.7% vs 21.2%, P=0.02) and a trend towards a lower ADC lowering percentage (25.3% vs 32.2%, P=0.05). Other characteristics were comparable.
Conclusions: Pre-EVT DWI-ADC mismatch identifies patients with slower infarct progression, distinct procedural requirements, and a higher likelihood of tissue reversal. Recognizing this pattern may improve EVT planning and optimize outcomes.

高纖維蛋白與血小板之血栓預測活動性癌症患者取栓後之中風復發及死亡風險

傅傳修[1]、陳志昊[2]、林彥亨[3]、李崇維[3]、蔡力凱[2]、湯頌君[2]、孫家棟[4, 5]、鄭建興[2]
[1]新竹台大分院神經部
[2]台大醫院神經部
[3]台大醫院影像醫學部
[4]台大醫院病理部
[5]台大醫學院法醫學研究所

High fibrin and platelet clot predicts stroke recurrence or mortality after thrombectomy in patients with active cancer

Chuan-Hsiu Fu[1], Chih-Hao Chen[2], Yen-Heng Lin[3], Chung-Wei Lee[3], Li-Kai Tsai[2], Sung-Chun Tang[2], Chia-Tung Shun[4, 5], Jiann-Shing Jeng[2]
[1]Department of Neurology, National Taiwan University Hospital Hsin-Chu Branch, Hsinchu, Taiwan.
[2]Department of Neurology, National Taiwan University Hospital, Taipei, Taiwan.
[3]Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan.
[4]Department of Pathology, National Taiwan University Hospital, Taipei, Taiwan.
[5]Institute of Forensic Medicine, College of Medicine, National Taiwan University, Taipei, Taiwan.

Background: Fibrin and platelet (FP)- rich clots have been shown to be associated with cancer- related stroke. We aim to investigate the prognostic role of thrombus composition in clinical outcomes among cancer patients who experienced stroke and received endovascular thrombectomy (EVT).
Methods: Thrombi from patients undergoing EVT between March 2015 and November 2021 were analyzed and were categorized into three groups: patients with active cancer, those with non- active cancer, and those without cancer. The percentages of fibrin/platelets in clots were quantified under hematoxylin and eosin staining. The primary outcome was defined as any stroke recurrence or mortality within 90 days following the index stroke event.
Results: Four-hundred-and-twenty patients (patients with active cancer, 50; non-active cancer 23; without cancer 347) were included. The percentage of FP was significantly higher in thrombi retrieved from patients with active cancer compared with the other two groups. After adjustment of clinical variables, a higher percentage of FP in thrombi was significantly associated with the primary outcome in the active cancer group (adjusted odds ratio (aOR) =1.03 (1.00–1.06), P=0.028), but not in the other two groups.
Conclusion: Among stroke patients receiving EVT, thrombi with a higher percentage of FP not only identify individuals with active cancer but also predict stroke recurrence or mortality within 90 days.

CADASIL患者的腦出血：*NOTCH3* R544C變異與高血壓的加乘影響？

陳志昊[1]、程郁文[1]、張睿婷[2]、Sophie Tezenas Du Montcel[3]、Stéphanie Guey[4]、Dominique Hervé[4]、湯頌君[1]、Hugues Chabriat[4]
[1]台大醫院神經部NationalTaiwanUniversityHospital,Neurology, Taipei, Taiwan
[2]浙江大學醫學院附屬第二醫院
[3]巴黎大腦研究所
[4]Lariboisière醫院

Intracerebral Hemorrhage in Patients With CADASIL: Additive Impact of the *NOTCH3* R544C Variant and Hypertension?

Chih-Hao Chen[1], Yu-Wen Cheng[1], Ruiting Zhang[2], Sophie Tezenas Du Montcel [3], Stéphanie Guey [4], Dominique Hervé [4], Sung-Chun Tang[1], Hugues Chabriat [4]
[1]National Taiwan University Hospital, Neurology, Taipei, Taiwan.
[2]The Second Affiliated Hospital of Zhejiang University, School of Medicine, Hangzhou, China.
[3]Sorbonne Université, Paris Brain Institute, Inria, AP-HP, Paris, France.
[4]Lariboisière Hospital AP-HP, Université Paris Cité and INSERM U1161, FHU NeuroVasc, Paris, France.

BACKGROUND: Intracerebral hemorrhage (ICH) is increasingly recognized in cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy, especially in Asian patients with the *NOTCH3* R544C variant. The associations between ICH, NOTCH3 variants, and hypertension remain unclear.
METHODS: We enrolled patients from 2 independent cohorts with cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy in France (recruited since 2003) and Taiwan (recruited since 2019) and performed a cross-sectional retrospective analysis. Clinical history and evaluation were collected using standardized questionnaires and scales, while neuroimaging features were assessed with the CADA-MRIT inventory tool. Patients with and without a history of ICH were compared. Logistic regression and mediation analyses were conducted to identify factors associated with ICH.
RESULTS: Of 552 patients with cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (440 from France and 112 from Taiwan), 34 (6.2%) had a history of ICH. Patients with ICH were older (62.9±11.4 versus 53.4±12.3 years), had a higher proportion of the *NOTCH3* R544C variant (79.4% versus 15.3%), and had hypertension (85.3% versus 24.9%). Analysis of magnetic resonance imaging data showed that they had more cerebral microbleeds, worse cerebral atrophy, and higher number of dilated perivascular spaces in basal ganglia. Hypertension (odds ratio, 7.90 [95% CI, 2.83–22.08]) and *NOTCH3* R544C variant (odds ratio, 9.91 [95% CI, 3.84–25.57]) were each independently associated with ICH, while no multiplicative interaction was detected between these 2 factors (Pinteraction =0.81). Having both *NOTCH3* R544C variant and hypertension carried an additive effect on the risk of ICH (36.9% if both present, 8.8% if having *NOTCH3* R544C variant without hypertension, 5.4% if having hypertension without *NOTCH3* R544C variant, and 0.6% if both absent; Ptrend <0.001). Finally, in the mediation analysis, 49.9% of the effects of the *NOTCH3* R544C variant on the occurrence of ICH would be explained by the effects of hypertension.
CONCLUSIONS: Both the *NOTCH3* R544C variant and hypertension appear to be independent risk factors for ICH in cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy, with a potential additive effect. However, due to the study's cross-sectional design and population-specific factors, causality cannot be established. Prospective studies are thus needed to validate these findings and clarify underlying mechanisms.

高齡隱源性腦中風患者接受開放性卵圓孔關閉術之療效、安全性與潛在年齡相關效益

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臺中榮民總醫院

Assessment of patent foramen ovale closure in elderly patients with cryptogenic transient ischemic attack or stroke: Efficacy, safety, and potential age-related benefit

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Introduction: The efficacy and safety of patent foramen ovale closure (PFOC) in cryptogenic stroke (CS) patients aged ≥ 60 remain controversial. This study evaluates the efficacy and safety of PFOC in elderly (aged ≥ 60) versus nonelderly (aged < 60) patients and examines potential age-related benefit.
Patients and methods: A hospital-based cohort study (January 2013–June 2023) compared the efficacy and safety between PFOC and non-PFOC groups in patient with CS or cryptogenic TIA. The primary efficacy outcome was recurrent ischemic stroke, and safety outcomes included procedure-related adverse events and periprocedural atrial fibrillation (AF). Subgroup analyses, including various age ranges, were performed for the elderly group.
Results: Among 239 patients (mean age 57.2 years), 120 were elderly. During a mean follow up of 3.1 years, the PFOC group had significantly fewer recurrent ischemic stroke than the non-PFOC group (adjusted hazard ratio (AHR): 0.10, 95% CI: 0.03–0.29, p = 0.001). The risk reduction was similar in elderly (AHR: 0.11, p = 0.004) and non-elderly (AHR: 0.10, p = 0.005) patients (p for interaction = 0.337). Safety outcomes were comparable across age groups, including younger elderly (60–70) and older elderly (≥ 70). No life-threatening complications occurred; one patient required additional intervention. Subgroup analysis indicated significant risk reduction for patients aged ≥ 65 (AHR: 0.01, p = 0.012) but not for those aged 60–65 (AHR: 0.24, p = 0.071).
Discussion and conclusion: PFO closure is safe and effective in elderly patients with CS. Advanced age should not be a contraindication for PFOC, as older patients may potentially derive more significant benefits from the procedure.

急性腦損傷的輸血策略比較：隨機臨床試驗的試驗序列分析與統合分析

蔡穩穩
奇美醫療財團法人奇美醫院

Liberal vs restrictive transfusion strategy for acute brain injury: A meta-analysis with trial sequential analysis of randomized clinical trials

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Background: Acute brain injury is a critical health challenge with substantial mortality and morbidity. While anemia is common in these patients and may worsen outcomes, the optimal red blood cell transfusion strategy remains controversial.
Objective: We conducted a meta-analysis with trial sequential analysis of randomized controlled trials (RCTs) comparing liberal versus restrictive transfusion strategies in patients with acute brain injury.
Methods: Pubmed, Embase, and the Cochrane Library databases were searched through December 15, 2024, for RCT comparing liberal (hemoglobin threshold 9-10 g/dL) versus restrictive (hemoglobin threshold 7-8 g/dL) transfusion strategies in adults with acute brain injury. The primary outcome was an unfavorable neurological outcome.
Results: Six RCTs involving 2,599 patients were included. There was no significant difference in unfavorable neurological outcomes between liberal and restrictive strategies (risk ratio [RR], 0.97; 95% confidence interval [CI], 0.83 to 1.14; p = 0.70). Similarly, no differences were observed in overall mortality (RR, 0.98; 95% CI, 0.85 to 1.12; p = 0.75), hospital mortality (RR, 1.02; 95% CI, 0.79 to 1.31; p = 0.89), or intensive care unit (ICU) mortality (RR, 0.74; 95% CI, 0.28 to 1.91; p = 0.53). Although transfusion reaction was non-significantly more frequent with liberal transfusion (RR, 1.13; 95% CI, 0.35 to 3.58; p = 0.84).
Conclusions: In patients with acute brain injury, a restrictive transfusion strategy was not associated with worse neurological outcomes or higher mortality compared to a liberal strategy. Implications for clinical practice: Maintaining hemoglobin levels above 7-8 g/dL may be effective for patients with acute brain injury, potentially reducing unnecessary transfusions and associated risks.
Meta-analysis registration: registered on PROSPERO under number CRD42025639745)
Keywords: acute brain injury; anemia; transfusion; restrictive; liberal

立體定位放射手術對腦部動靜脈畸形的長期效用評估

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Evaluation of Long-term Radiation Effect in patients with Cerebral Arteriovenous Malformation treated using Stereotactic Radiosurgery

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Objective: For more than 4 decades, stereotactic radiosurgery (SRS) has been a standard procedure for brain arteriovenous malformation (AVM). Nonetheless, this procedure has been implicated in postobliteration intracranial hemorrhage (ICH) and delayed cyst formation (DCF). In this study, the authors investigated the long-term outcomes of SRS treatment for AVM.
Methods: Authors of this retrospective study reviewed the medical records of all patients who underwent SRS for brain AVM at a single academic medical center between January 1995 and October 2014 and whose clinical follow-up was at least 5 years. Analysis focused on clinicodemographic profiles, treatment parameters, and imaging phenotypes.
Results: The final study cohort consisted of 380 patients with a mean age of 34.2 years and mean follow-up of 11.5 years. There was a slight preponderance of males in the cohort (201:179). A total of 154 patients (40.5%) experienced ICH prior to SRS treatment. The mean maximum AVM diameter was 3.3 cm, and most malformations were supratentorial (n = 325, 85.5%). Stratification based on Spetzler-Martin grade was as follows: grade I, 35 cases (9.2%); grade II, 104 cases (27.4%); grade III, 136 cases (35.8%); grade IV, 83 cases (21.8%); and grade V, 22 cases (5.8%). The median interval between SRS and complete AVM obliteration was 48.4 months. Chronic encapsulated intracerebral hematoma (CEIH) was noted in 16 patients (mean latency 14.6 years after SRS), and DCF was noted in 24 patients (mean latency 9.6 years after SRS). Among these 40 patients, 14 (35.0%) required craniotomy and 3 (7.5%) required stereotactic aspiration due to symptomatic mass effect. An analysis of risk factors revealed early radiation-induced change, infratentorial location, and prior hemorrhage as predictive of CEIH. Early RIC alone was predictive of DCF.
Conclusions: Even after angiographic obliteration, long-term clinical and radiological surveillance is warranted due to the risk of CEIH (2.1%) and delayed cysts (3.2%) more than a decade after SRS.

NOTCH3-SVD分期在*NOTCH3* p.R544C帶因者之預後意義

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Prognostic Significance of the *NOTCH3*-SVD Staging in Individuals with the *NOTCH3* p.R544C Variant

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Background: The *NOTCH3*-SVD staging system was developed to characterize *NOTCH3* related small vessel disease (SVD). However, its applicability to specific *NOTCH3* variants and its correlation with clinical outcomes remain to be validated in cohorts with a single pathogenic variant.

Aims: This study aimed to apply the *NOTCH3*-SVD staging system to Taiwanese individuals with the *NOTCH3* p.R544C variant to characterize clinical and imaging heterogeneity within a single variant and to identify predictors of disease progression.

Methods: We enrolled individuals carrying the *NOTCH3* p.R544C variants from two sources: the Taiwan Precision Medicine Initiative, a hospital-based volunteer cohort undergoing genetic screening, and the Taiwan CADASIL Registry, which includes individuals with symptomatic SVD and confirmed *NOTCH3* pathogenic variants. Participants were classified using the *NOTCH3*-SVD staging system. Baseline characteristics were compared across stages. Multivariable models with forward stepwise selection were used to identify factors associated with prior stroke or cognitive impairment. Stroke-free survival was analyzed using Kaplan–Meier curves and Cox proportional hazards models. Cognitive decline, assessed by Mini-Mental State Examination (MMSE), was evaluated using a generalized estimating equation.
Results: Among 260 individuals (median age 62 years; 49% male), the median stage was 2A. Higher stages were positively with prior stroke, cognitive impairment, gait disturbance, and psychiatric symptoms, and inversely with headache (all p for trend <0.05). Fewer years of education (OR 0.90, 95% CI 0.83–0.98), hypertension (OR 2.34, 95% CI 1.18–4.67), and higher *NOTCH3*-SVD stage (OR 3.70 per 1-substage increase, 95% CI 2.61–5.25) were significantly associated with prior stroke or cognitive impairment. Individuals with stage ≥2B had higher incident stroke risk than those with stage <2B during a median follow-up of 1.9 years (annual risk 6.7% vs. 2.0%, log-rank p = 0.023; hazard ratio 3.38; 95% CI 1.10-10.4, adjusted for age and hypertension). MMSE scores declined progressively over 2 years in individuals with stage ≥2B, whereas those with stage <2B remained cognitively stable (p for interaction = 0.024).
Conclusion: The *NOTCH3*-SVD staging system effectively stratified disease burden and predicted incident stroke and cognitive decline in individuals with *NOTCH3* p.R544C, with stage ≥2B indicating a higher risk.

急性缺血性腦中風經再灌流治療後之神經保護輔助治療比較：系統性回顧與網絡統合分析

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Comparison of neuroprotective adjuvant treatments in patients with acute ischemic stroke after reperfusion therapy: A systematic review and network meta analysis

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Objective: Acute ischemic stroke (AIS) remains a leading cause of death and disability worldwide, highlighting the need for more effective treatment strategies to improve patient outcomes. This study aims to conduct a network meta-analysis to comprehensively compare the efficacy of various neuroprotective adjuvant treatments in enhancing outcomes following reperfusion therapy in AIS. The insights gained from this analysis are intended to guide clinical decision-making and optimize therapeutic strategies for AIS patients.
Methods: From January 2005 to September 2024, we conducted a comprehensive search across PubMed, EMBASE, the Cochrane Central Register of Controlled Trials (CENTRAL), and ClinicalTrials.gov. The search strategy utilized Medical Subject Headings (MeSH) terms and keywords related to "acute ischemic stroke," "neuroprotective adjuvant treatments," "thrombolysis or thrombectomy," and "randomized." No language restrictions were applied, and we manually searched the reference lists of relevant studies to identify additional trials. We included randomized controlled trials (RCTs) evaluating neuroprotective adjuvant treatments in combination with reperfusion therapy for patients with acute ischemic stroke (AIS). The primary outcome was the proportion of patients achieving a 90-day modified Rankin Scale (mRS) score of 0-2. Secondary outcomes included 90-day mRS scores of 0-1 and 0-3, the incidence of symptomatic intracerebral hemorrhage (sICH), and mortality. Data extraction and risk of bias assessments were conducted independently by two reviewers, with discrepancies resolved through consensus. MetaInsight was used to perform network meta-analysis (NMA), employing a random-effects model. Initially, forest and network plots were generated to illustrate all pairwise comparisons from the individual studies. Additionally, we applied a Bayesian method to generate the Litmus Rank-O-Gram for calculating the SUCRA (Surface Under the Cumulative Ranking Curve) and performing the ranking of interventions.
Results: The NMAincluded 20 RCTs involving 5,803 participants. The analysis evaluated the following treatments: cerebrolysin, regional hypothermia (RH), normobaric oxygen therapy (NBO), butylphthalide (NBP), 3K3A-activated protein C (APC), otaplimastat, nerinetide (NA-1), uric acid (UA), ApTOLL, nelonemdaz (Neu200), remote ischemic conditioning (RIC), albumin, simvastatin, imatinib, theophylline, and transcranial direct current stimulation (tDCS). For the primary outcome, regional hypothermia (RH) significantly increased the proportion of mRS 0-2 at 90 days (good functional outcome)

with a risk difference of 0.20 (95% CI [0.02; 0.37], SUCRA 89.44%). Normobaric oxygen also increased the proportion of mRS 0-2 at 90 days (good functional outcome) with a risk difference of 0.11 (95% CI [0.00; 0.22], SUCRA69.23%). The efficacy of these treatments, ranked in order of mean risk difference, is as follows: RH, tDCS, NBO, imatinib, uric acid, nelonemdaz, NBP, cerebrolysin, ApTOLL, NA-1, theophylline, RIC, otaplimastat, simvastatin, and albumin. For secondary outcomes, no significant difference was observed in mRS 0-1 across various neuroprotective adjuvant treatments. However, RH and NBO demonstrated positive risk difference (RD) values of 0.15 (95% CI [0.01, 0.30], SUCRA 79.30%) and 0.19 (95% CI [0.01, 0.36], SUCRA 81.79%), respectively, for achieving mRS 0-3 at 90 days. Additionally, cerebrolysin reduced the incidence of sICH with an RD of-0.04 (95% CI [-0.07,-0.00], SUCRA 69.56%), and NBO reduced mortality with an RD of-0.11 (95% CI [-0.18,-0.04], SUCRA 72.49%). These findings highlight potential benefits in specific outcomes for RH, NBO, and cerebrolysin.

Conclusions: This NMA indicates that RH and NBO may enhance the proportion of patients achieving mRS 0-2 at 90 days following reperfusion therapy inAIS.Additionally, cerebrolysin may reduce the incidence of sICH, and NBO may lower mortality rates. Combining RH, NBO, and cerebrolysin as a neuroprotective treatment regimen warrants further exploration. Future studies should focus on optimizing timing, patient selection, and long-term effects of these strategies to enhance therapeutic outcomes in diverse AIS populations, supporting informed clinical decision-making and advancing AIS management.

年輕護理學者在長期追蹤混合型研究中的經驗與反思：來自實務研究的啟發

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Navigating Longitudinal Mixed-Methods Research As Early Career Nursing Scholars: Lessons From Real-World Studies

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Background and Aims: Longitudinal mixed-methods research offers valuable insights into complex health experiences, such as managing fatigue during post-stroke recovery. However, early-career nursing researchers often face challenges in study design, participant retention, and data integration. This abstract shares lessons learned primarily from a dissertation study on post-stroke fatigue and recovery within six months after stroke. To broaden the relevance of these lessons, we also draw on a second dissertation that followed women with type 2 diabetes from pregnancy through postpartum to explore self-management, breastfeeding intentions, and later, barriers and facilitators to breastfeeding. Our aim is to highlight actionable strategies for conducting longitudinal mixed-methods research in real-world nursing contexts.
Methods: Both studies used a convergent mixed-methods design, integrating quantitative surveys and qualitative interviews at multiple time points. We reflect on practical solutions to common challenges, including recruitment, retention, data collection, and integration of findings.
Results: Key lessons learned included: (1) conducting training to ensure methodological rigor; (2) securing small grants early to support transcription, compensation, and analysis; (3) clearly articulating the study's relevance to participants to cnhance engagement; (4) providing milestone-based compensation to improve retention; (5) offering flexibility in data collection format and scheduling; (6) seeking quidance from mentors and peers to strengthen analytical approaches; and (7) relying on protocols and literature to guide decision-making during the study.
Conclusions: Longitudinal mixed-methods research is both challenging and rewarding. For early-career scholars, it builds essential research skills. Our experience highlights the importance of preparation, strategic data collection, and mentorship in navigating this approach while upholding scientific rigor.

2025年會壁報論文

No	論文名稱、作者、機構
1	年輕缺血性中風患者中潛在未診斷的法布瑞氏症：多中心隊列研究 Investigating undiagnosed Fabry disease in young adults with ischemic stroke: A multicenter cohort study *林伯昱　國立成功大學醫學院附設醫院*
2	年齡對心房纖維顫動病人活化第十因子抑制劑濃度及出血風險的影響 Impact of age and Factor Xa inhibitor concentrations on bleeding risk in patients with atrial fibrillation *林欣儀　台大醫院*
3	DWI-ADC不一致預測前循環腦中風梗塞進展速度與血管內取栓治療結果 DWI-ADC mismatch predicts infarct growth rate and endovascular thrombectomy outcomes in anterior circulation stroke *姜振華　衛生福利部雙和醫院*
4	高纖維蛋白與血小板之血栓預測活動性癌症患者取栓後之中風復發及死亡風險 High fibrin and platelet clot predicts stroke recurrence or mortality after thrombectomy in patients with active cancer *傅傳修　新竹台大醫院*
5	CADASIL患者的腦出血：NOTCH3 R544C變異與高血壓的加乘影響？ Intracerebral hemorrhage in patients with CADASIL: Additive impact of the NOTCH3 R544C variant and hypertension? *陳志昊　台大醫院*
6	高齡隱源性腦中風患者接受開放性卵圓孔關閉術之療效、安全性與潛在年齡相關效益 Assessment of patent foramen ovale closure in elderly patients with cryptogenic transient ischemic attack or stroke: Efficacy, safety, and potential age-related benefit *王其聖　台中榮民總醫院*
7	急性腦損傷的輸血策略比較：隨機臨床試驗的試驗序列分析與統合分析 Liberal vs restrictive transfusion strategy for acute brain injury: A meta-analysis with trial sequential analysis of randomized clinical trials *蔡穩穩　奇美醫院*
8	立體定位放射手術對腦部動靜脈畸形的長期效用評估 Evaluation of long-term radiation effect in patients with cerebral arteriovenous malformation treated using stereotactic radiosurgery *彭子強　台北榮民總醫院*
9	NOTCH3-SVD分期在NOTCH3 p.R544C帶因者之預後意義 Prognostic significance of the NOTCH3-SVD staging in individuals with the NOTCH3 p.R544C variant *沈英琪　台大醫院*

10 急性缺血性腦中風經再灌流治療後之神經保護輔助治療比較：系統性回顧與網絡統合分析
Comparison of neuroprotective adjuvant treatments in patients with acute ischemic stroke after reperfusion therapy: A systematic review and network meta-analysis
陳奕翔　基隆長庚醫院

11 年輕護理學者在長期追蹤混合型研究中的經驗與反思：來自實務研究的啟發
Navigating longitudinal Mixed-Methods research as early career nursing scholars: Lessons from real-world studies
鄧喬欣　長庚大學

12 同時合併「可能的腦類澱粉沉積血管病（CAA）」與「抗磷脂症候群（APS）」患者中使用抗血栓藥物的兩難
A dilemma of using antithrombotic agents in a patient with both possible cerebral amyloid angiopathy and antiphospholipid syndrome
蔡穩穩　奇美醫院

13 心腦梗塞的發生率與預後：單一中心中風登錄研究
Incidence and outcomes of cardiocerebral infarction: A single-center stroke registry
鄭宗斌　台大醫院

14 人工智慧基於常規臨床資訊預測TOAST缺血性中風分類：永康奇美醫院中風登錄資料分析
Artificial intelligence prediction of TOAST classification using routine clinical data in Chi-Mei Stroke Registry
陳辰睿　奇美醫院

15 雲嘉南中風網絡血管內取栓跨院轉診病人轉出延遲之相關影響因素分析
Factors associated with door-in-door-out delays in interhospital transfers for endovascular thrombectomy: insights from the Tainan–Chiayi Stroke Network
鄭博嘉　國立成功大學醫學院附設醫院

16 改善輕微缺血性腦中風或高風險暫時性腦缺血病患雙重抗血小板藥物之使用
Increasing the utilization rate of dual antiplatelet therapy in patients with minor ischemic stroke or high-risk transient ischemic attack
吳宛蓉　台大醫院

17 細胞老化作為慢性缺血性腦損傷的顯著特徵
Cellular senescence as a hallmark of chronic ischemic brain injury
湯頌君　台大醫院

18 頭頸部鱗狀細胞癌患者接受質子治療與體積調控弧形放療後之放射治療相關血管病變：一項縱向研究
Post-radiation vasculopathy between proton-beam and volumetric-modulated-arc-therapy in head and neck squamous cell carcinoma patients: A longitudinal study
江建霖　林口長庚醫院

19 動脈取栓術後影劑誘發性腦病變的發生率和預後
Incidence and outcome of contrast-induced encephalopathy after endovascular thrombectomy
鄭雅文　新竹台大醫院

20 重複性顱磁刺激的劑量對於不同階段腦中風患者的下肢恢復之療效：統合分析
Dose-dependent effects of repetitive transcranial magnetic stimulation (rTMS) on lower limb recovery at different stroke stages: A meta-analysis
魏雅瑩　國軍高雄總醫院

21 經顱直流電刺激合併不同復健介入對於中風行走速度的影響比較：系統性回顧與統合分析
Comparison of transcranial direct current stimulation combined with different rehabilitation interventions on gait speed in stroke: A systematic review and meta-analysis
魏雅瑩　國軍高雄總醫院

22 智慧化資訊提示於出血性腦中風病人嚴重度評估的應用與臨床成效
Application and clinical impact of smart information prompts in severity assessment of hemorrhagic stroke patients
謝沏芩　衛生福利部雙和醫院

23 台灣體顯性腦動脈血管病變合併皮質下腦梗塞及腦白質病變病患的精神症狀：一項觀察性研究
Psychiatric symptoms in a Taiwanese CADASIL cohort: An observational study
沈英琪　台大醫院

24 血漿血管新生蛋白作為中風後認知障礙的預測生物指標
Plasma angiogenesis proteins as predictive biomarkers for post-stroke cognitive impairment
周冠廷　衛生福利部雙和醫院

25 隱形的殺手：陣發性心房顫動 - 從一位併發大範圍腦中風的案例，探討高風險患者的早期篩檢與預防策略
The invisible killer: Paroxysmal atrial fibrillation - exploring early screening and prevention strategies in high-risk patients through a case of massive stroke
詹美玲　美和科技大學、衛生福利部旗山醫院

26 臺灣院前大血管阻塞中風之洛杉磯動作量表分流研究：雙中心驗證與出血性中風相關誤判分析
Prehospital LVO triage with LAMS in Taiwan: Two-center validation and ICH-related misclassification
林于淵　國立成功大學醫學院附設醫院

27 利用CADADSIL老鼠探討Notch3不同變異位點對N3ECD沉積與發炎反應的差異性調控
Distinct Notch3 variants differentially regulate N3ECD deposition and inflammatory responses in CADASIL mice models
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28 成功動脈取栓後之前循環大血管阻塞中風患者顱血管超音波發現是否可以預測其預後
Transcranial doppler ultrasound findings in predicting outcomes following successful endovascular thrombectomy of large vessel occlusions in anterior circulation
林雅如　馬偕紀念醫院

29 腦中風病人照護中個案管理師衛教介入成效之探討
Evaluating the impact of case manager-delivered health education in stroke patient care
康家敏　衛生福利部雙和醫院

30 假中風：年輕女子多次復發緩解的神經功能缺損
Stroke mimics or chalmelon? a young female with relapsing-remitting presentation of focal neurologic deficit
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31 中風後吞嚥障礙患者經急性後期照護後鼻胃管移除及Fazekas分數之關聯性：回顧性研究
Association between Fazekas score and nasogastric tube removal in post-stroke dysphagia during post-acute care: A retrospective study
蕭百芳　國立成功大學醫學院附設醫院

32 急性腦中風取栓治療後對側顯影劑腦病變罕見個案
A rare case of contralateral contrast-induced encephalopathy after endovascular thrombectomy for acute ischemic stroke
劉兆禹　台大醫院

33 資料驅動的心–腎–代謝共病中風照護：結合Power Platform流程自動化
Data-Driven integration of the cardio-kidney-metabolic model into stroke case management: Workflow automation with power platform
林冠宏　奇美醫院

34 Power Platform與AI輔助之中風生活型態醫學介入：初步實施經驗
Integrating power platform and AI for lifestyle medicine in stroke survivors: preliminary implementation experience
呂冠嫻　奇美醫院

35 外泌體miR-452於缺血性腦中風中透過粒線體功能障礙與細胞死亡途徑促進神經元死亡
Exosomal miR-452 promotes neuronal death via mitochondrial dysfunction and cell death pathways in ischemic stroke
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36 直接口服抗凝血劑治療發生缺血性腦中風後，合併直接口服抗凝血劑和抗血小板治療：全國性世代研究
DOAC plus antiplatelet after ischemic stroke on DOAC: A nationwide cohort study
謝孟倉　奇美醫院

37 電腦斷層血管攝影檢查地點對取栓決策與轉院效率的影響：台南嘉義中風網絡之分析
Effect of CTA acquisition site on endovascular thrombectomy candidates and transfer efficiency in the Tainan–Chiayi Stroke Network
蔡博宇　國立成功大學醫學院附設醫院

38 長新冠腦霧患者動脈與靜脈角色及腦血流自主調節表現
The roles of venous drainage and the autoregulation of cerebral blood flow in long COVID patients with brain fog
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39 腦中風智能結構化與One Team個管系統應用：提升精準資料與整合照護
From data to care: Intelligent structuring and one team case management system in advancing precision and integrated stroke care
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40 急性後期照護與一站式諮詢：提升中風病人康復及返家意願
Integrating post-acute care and one-stop consultation to improve stroke patients' rehabilitation and home-return readiness
劉雅婷　臺北市立萬芳醫院

41 以HERMES-24量表驗證動脈血栓移除之預後：台灣動脈血栓移除登錄研究
Validation of the HERMES-24 score in outcome prediction after endovascular thrombectomy from Taiwan and Korea
鄭宗敏　臺大公共衛生學院流行病學與預防醫學研究所

42 顱內椎基底動脈解離相關缺血性中風之早期支架置放：安全性與功能預後
Early stenting in intracranial vertebrobasilar dissection–associated ischemic stroke: Safety and functional outcomes
劉虹余　台北榮民總醫院

43 經顱直流電刺激（tDCS）結合動作訓練提升腦中風動作恢復之成效與最佳策略：統合分析
Efficacy and optimal strategies of transcranial direct current stimulation (tDCS) combined with motor training for stroke motor recovery: A meta-analysis
蔡昆晏　國軍高雄總醫院

44 重複性顱磁刺激結合視覺回饋對於腦中風患者的下肢恢復療效：統合分析
Efficacy of repetitive transcranial magnetic stimulation (rTMS) combined with visual feedback on lower limb recovery in stroke patients: A meta-analysis
蔡昆晏　國軍高雄總醫院

45 中風後90日生活品質不良之決定因子：以EQ-5D-5L VAS為基礎之多變項分析
Determinants of poor 90-Day health-related quality of life after stroke: A multivariable analysis using EQ-5D-5L VAS
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46 接受血管內取栓之低 NIHSS 中風患者不良預後的臨床相關因素與靜脈溶栓治療的影響
Clinical determinants of unfavorable outcomes and role of intravenous thrombolysis in low NIHSS stroke patients treated with endovascular thrombectomy
陳嘉泓　衛生福利部雙和醫院

47 北部兩醫學中心於急性腦中風病人使用Tirofiban藥物的觀察性研究
Preliminary data on the safety of tirofiban in acute ischemic stroke: A two-center observational study
歐陽彣昱　台北榮民總醫院

48 顱內移植間質幹細胞治療慢性腦中風患者的安全性及有效性：二期試驗
Safety and efficacy of intracranial transplantation of adipose-derived stem cells for treating patients with chronic stroke: A phase II trial
黃茂軒　國璽幹細胞應用技術股份有限公司

49 蒙古-台灣急性腦出血患者之臨床特色與預後比較
Comparisons of clinical characteristics and outcomes of patients with acute intracerebral hemorrhage between Mongolia and Taiwan
葉馨喬　台大醫院

50 雙側反覆自發性顱內椎動脈剝離併小腦後下動脈瘤致延髓梗塞：案例報告
Bilateral recurrent spontaneous intracranial vertebral artery dissection with PICA aneurysm causing medullary infarction: A case report
施承佑　馬偕紀念醫院

51 急性期與亞急性期血糖狀態對中風後不同認知領域之影響：前瞻性研究分析
Distinct effects of acute and subacute glycemic states on post-stroke cognitive domains: Insights from a prospective cohort
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