

• 系統編號	RG9712-0042		
• 計畫中文名稱	腦部多重監測系統應用於嚴重腦外傷之跨院研究		
• 計畫英文名稱	--		
• 主管機關	行政院衛生署	• 計畫編號	NHRI-EX97-9707PI
• 執行機構	台北醫學大學傷害防治學研究所		
• 本期期間	9701 ~ 9712		
• 報告頁數	310 頁	• 使用語言	中文
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• 中文關鍵字	腦外傷；腦組織氧氣分壓監測；顱內壓；腦灌流壓；壓力自動調節；；；		
• 英文關鍵字	traumatic brain injury；brain tissue oxygen tension；intracranial pressure；cerebral perfusion pressure；pressure autoregulation；；；		
• 中文摘要	本年度研究重點及進度九十七年度本研究計畫之執行方向可分成兩個方向：（一） 先進行腦外傷病例登錄，本計畫持續建立國內腦外傷登錄資料庫。(a)腦外傷病患登錄共收集有效問卷 1,945 筆；(b)嚴重腦外傷有效問卷共 288 筆。從問卷的總數不難發現，腦外傷病患具有持續下降的趨勢，初步結果顯示（1）接受多重監測系統治療的病患預後明顯較好，即使為急性病患亦為如此；（2）調整 FiO2 增加腦組織氧氣分壓值比以 vasopressor, fluid expander 等提高腦灌流壓值避免 cardiopulmonary 併發症的發生；（3）腦組織氧氣分壓監測的執行尤其對造成 focal or diffuse cerebral ischemic change 之 pulmonary 及 cardiac problems 的病患有明顯的幫助；（4）以整體存活率作為指標，接受多重監測系統之嚴重腦外傷患者之存活率明顯高於未接受者，在本研究中接受多重監測系統可有效降低嚴重腦外傷病患之死亡率。未來將持續運用 WHOQOL-BREF 台灣版及針對腦外傷後病人之腦部傷害病患生活品質問卷之評估，並以 GOS 及 GOSE 追蹤已收案病患評估其恢復狀態及癒後情形之相關性。（二） 舉辦腦外傷治療共識會議與研討會，與國內、外神經外科及相關醫療人員腦外傷處理準則之共識與教育訓練。2008 年 7 月 26 至 7 月 27 日台灣神經創傷學會於台北醫學大學主辦 1st Conference on Asian-Pacific Neurotrauma Society in Conjunction with 3rd Annual Meeting of Taiwan Neurotrauma Society，中文譯為第一屆亞太地區神經創傷研討會暨第三屆台灣神經創傷學會年會，邀請多位國際神經創傷學術研究領域享譽盛名之專家學者，包括 5 國共 34 位國內、外講員及座長。國外講員邀請義大利 Prof. Franco Servadei；日本 Prof. Minoru Shigemori；日本 Prof. Shima；韓國 Prof. Kyoung-Suok Cho；韓國 Prof. Dongho Kim；韓國 Prof. Youn-Kwan Park；中國 Prof. Shu-yuan Yang；中國 Prof. Ji-yao Jiang；中國 Prof. Liang Gao。國內包括基礎及臨床神經科學研究相關領域之專家學者與會。大會主題涵括神經創傷基礎研究、腦外傷治療之爭議及預後評估與建立腦外傷臨床診療指引之共識。目標則希望藉由此研討會，不僅促進亞太地區神經外科交流，同時提供機會予國內、外神經科學研究各界人士學術交流，更對提升我國國際地位有莫大助益。本次大會圓滿落幕並成立 Asia-Oceania Neurotrauma Society(AONTS)，推選日本 Professor Minoru Shigemori 為第一任理事長，並推選台北醫學大學邱文達校長為備位理事長(President-elect)，會中決議每兩年於不同會員國召開會員大會，並將定期召開會議。會中完成建置四個亞太地區嚴重腦外傷臨床診療指引之共識，包括:(1) 顱內壓監測器植入；(2)腦灌流壓處置；(3)減壓性開顱術；(4)鎮定劑使用預計兩年內完成亞太洋洲區域嚴重腦外傷臨床診療指引。實為神經科學研究重大發展。收集腦外傷病患資料、生活品質追蹤及神經外科醫師對多重腦監測系統處置之意見，進行資料處理與分析，依研究成果提出具成本效益且降低社會成本之建議。透過與會專家學者的討論，提供國內醫療照護人員最好的教育機會，促使國內臨床應用上有一共同醫療處置之依循。		
• 英文摘要	Focus and Process There were two main study aims of research project in the year 2008. I. Establishment of traumatic brain injury registry system in Taiwan: In the last one year, totally 1,945 valid entries of traumatic brain injury questionnaire for registry system were obtained. Of 288 valid entries were severe traumatic brain injury questionnaires. There are a number of results were identified. (1) Traumatic brain injury patients who received multi-monitoring which were standard treatment plus PtO2 monitoring in the acute stage		

had better outcome than those who had only standard treatment which were intracranial pressure (ICP) monitoring and cerebral perfusion pressure (CPP) management. (2) Complications between the treatment of increasing PtO_2 by adjusting FiO_2 and the treatment of increasing CPP by giving vasopressors and fluid expanders were compared. Interestingly, implementation of brain tissue oxygenation monitor may reduce the incidence of cardiac and pulmonary complications especially for those patients who had either focal or diffuse cerebral ischemic lesions. (4) Patients who had PtO_2 monitoring in addition to standard treatment had relatively higher survival rate than those who had standard treatment. (5) Meanwhile, we evaluated the quality life of traumatic brain injury patients with WHOQOL-BREF and outcome of those patients with GOS and GOSE. These studies will continue in the next year.

II. Coordination of educational courses for neurosurgeons and related professionals. For continued education course for neurosurgeons and related professionals, we organized the 1st Conference on Asia-Pacific Neurotrauma Society in conjunction with the 3rd Annual Meeting of Taiwan Neurotrauma Society” in 2008. The main purpose of this meeting, in addition to educational courses, was to establish the Asian version of guideline and consensus in management of TBI. The meeting was held in Taipei Medical University. We invited domestic professors who had done research work in the field of neurotrauma to present their research work such as application of herbal medicine, nursing care and neurorehabilitation. Additionally, we invited international professors from Japan, Korea, China, and Italy. They were Prof. Franco Servadei, Prof. Minoru Shigemori, Prof. Shima, Prof. Kyoung-Suok Cho, Prof. Dongho Kim, Prof. Youn-Kwan Park, Prof. Shu-yuan Yang, Prof. Ji-yao Jiang and Prof. Liang Gao. About 100 people attended the meeting. Among them, they were neurosurgeons, neuroscientists, neurotraumatologists, and neurorehabilitation specialists. During the meeting, the novel concepts in the management of severe TBI and the differences among the 4 published Asia severe TBI guidelines from Taiwan, Japan, Korea, and China were well presented and discussed. The goals of exchange knowledge and collaboration research in the Asia-Pacific region were achieved. Moreover, a new neurotrauma society dedicated to the Asia region, Asia-Oceania Neurotrauma Society (AONTS), was established at the same time. Prof. Shigemori was the 1st President of AONTS, and Prof. Wen-Ta Chiu was the President-elect. Six novel consensuses in the management of severe TBI were proposed for the new society members to work with. Firstly, ICP should be considered as a treatment concept rather than a monitor tool. Secondly, the external ventriculostomies are considered first for TBI patients whose conditions are indicated for ICP monitoring. Catheter-tip types of ICP monitors are an alternative option if external ventriculostomy is difficult to establish. Thirdly, the intraparenchymal location of ICP monitors is better than either subdural or extradural monitors. Fourthly, CPP threshold level should not be lower than 60 mmHg. Fifthly, decompressive craniectomy is clinically effective for treatment of malignant brain swelling. It can be done prior to the second tier therapy. Sixthly, proper short-term sedations and analgesics are indicated for the acute, ventilated severe TBI patients who are under adequate monitorings. Among these 6 consensuses, ICP, CPP, Decompressive craniectomy and Sedatives were proposed to accomplish in the future first AONTS congress. This research project will play an important role of developing new guideline in the management of severe TBI, and will provide good educational and training courses to Taiwan healthcare providers by organizing international symposia.