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出國報告（出國類別：國際會議）

2022 年 第十六屆亞澳神經外科醫學會 16th Asian Australasian Congress of Neurological Surgeons

服務機關：台中榮民總醫院 神經醫學中心 神經外科
姓名職稱：神經醫學中心住院醫師 李啟瑞
派赴國家地點：以色列
出國期間：111.09.04~111.09.08
報告日期：111.09.26

摘要

很榮幸這次的病例討論的壁報投稿能夠雀屏中選，讓我能有機會參加這次第十六屆亞澳神經外科醫學會，在為期五天的議程中，不僅能夠與各國神經外科醫師互相交流，也於現場看到許多目前台灣還沒有使用的神經外科尖端儀器，不管是在手術房使用還是重症照護，著實讓我大開眼界。

回到這次參加會議主體，相當感謝沈炯祺主任及廖致翔醫師的指導才能完成本次的病例討論壁報，本次至大會報告的主題是 Rare Case with Coexisting Ossification of the Posterior Longitudinal Ligament and Cervical Intramedullary Hemangioblastoma，屬於脊椎相關之罕見病例，在本次的報告中，也聽到許多其他國家對於脊椎方面的一些獨到見解及手術技巧，此外在各領域包括腦血管、脊椎、神經重症、功能性神經外科以及神經腫瘤都有來自全球的專家與會，非常幸運能有這次的機會出席這類跨國的醫學會議，在此衷心感謝院方支持！

關鍵字: 病例討論、罕見病例、國際醫療、神經外科未來展望

目次

一、目的：

參加這次第十六屆亞澳神經外科醫學會，在為期五天的議程中，不僅能夠與各國神經外科醫師互相交流，也於現場看到許多目前台灣還沒有使用的神經外科尖端儀器，不管是在手術房使用還是重症照護，都能在將來的行醫過程中有很大的幫助。

本次至大會報告的主題是 Rare Case with Coexisting Ossification of the Posterior Longitudinal Ligament and Cervical Intramedullary Hemangioblastoma，屬於脊椎相關之罕見病例，在本次的報告中，不僅能讓國外神經外科醫師了解到台中榮總對於此類罕見病例是如何處理，也能在意見交換時學習其他國家對於脊椎方面的一些獨到見解及手術技巧，

二、 過程

本次會議預定於 111 年月 4 日開始大會之 pre-congress course，本人於 9 月 3 日從桃園國際機場出發，經土耳其伊斯坦堡轉機，於以色列當地時間 9 月 4 日抵達位於特拉維夫之 Ben Gurion Airport 國際機場；於 9 月 4 日至 9 月 8 日參與第 16 屆亞澳神經外科醫學會，並於會場展示代表台中榮總之病例討論壁報：**Case report: A Rare Case with Coexisting Ossification of the Posterior Longitudinal Ligament and Cervical Intramedullary Hemangioblastoma**，於當地時間 9 月 8 日搭機返台。

三、心得：

針對這次參加亞澳神經外科醫學會有特別印象之主題進行心得報告：

腦血管疾病 Cerebrovascular disease

在第一天的議程中，有去聽了沈炯祺主任及廖致翔醫師分享動脈瘤相關之治療經驗分享，不管是 Intra-dural 的 keyhole surgery 或是 extra-dural 的海綿竇內動脈瘤夾除手術，都讓我受益良多，雖然平日在開刀房內也曾參與此類手術，但是能夠坐在台下仔細聆聽這些系統性的回顧，又是另外一種角度的學習。

腦部外傷 Traumatic brain injury

在本次的會議中，了解到國外對於腦部外傷病人之重症照護的現今趨勢，像是低溫療法的 Protocol 或是一些臨床照護需要特別注意的參數等，由於日後神經外科行醫的過程中也會有很大一部份重症照護相關，如果能將本次會議所學加以應用，應能更精進臨床照護之品質。

脊髓損傷及脊椎外傷 Spinal cord injury

由於目前脊椎損傷尚無相當系統化之神經監測指標(如顱內壓監測)，臨床上各國都致力於能建立出一套完整的治療，本次令我最深刻的是目前歐洲各國聯合進行的 **DISCUS (Duroplasty for Injured cervical Spinal Cord with Uncontrolled Swelling)** trial，此臨床試驗是由英國牛津大學主持，由於脊髓損傷後會處於水腫狀態，但目前硬脊膜整形術減壓並非常規處置，相信在這個大型臨床試驗有最終結果後，能夠對於目前脊髓損傷之處理能夠有更進一步的改變。

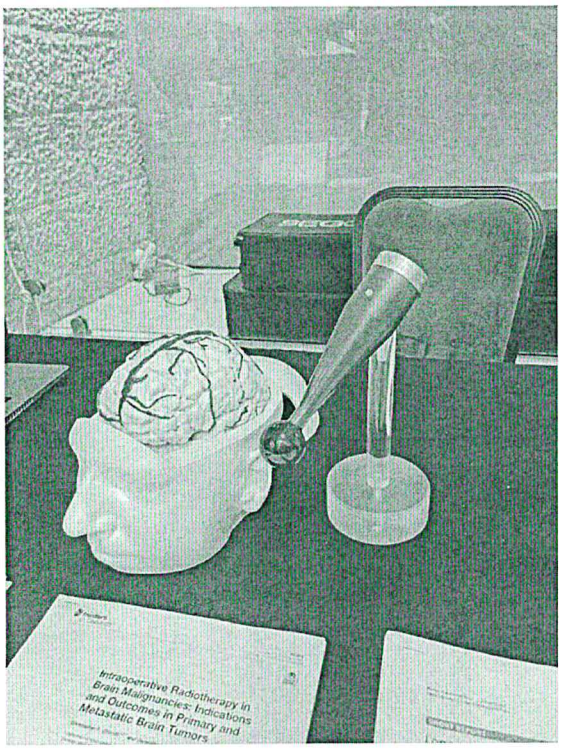
醫學與人文

在第三天的晚會中,大會特地邀請曾榮獲諾貝爾化學獎之 Aaron Ciechanover 教授進行專題演說，對於後 Covid-19 大流行之代之醫療演變及人文關懷進行探討；除此之外，以色列總理 Yair Lapid 更親臨現場發表致詞，足見以色列對於神經外科醫學發展之看重。

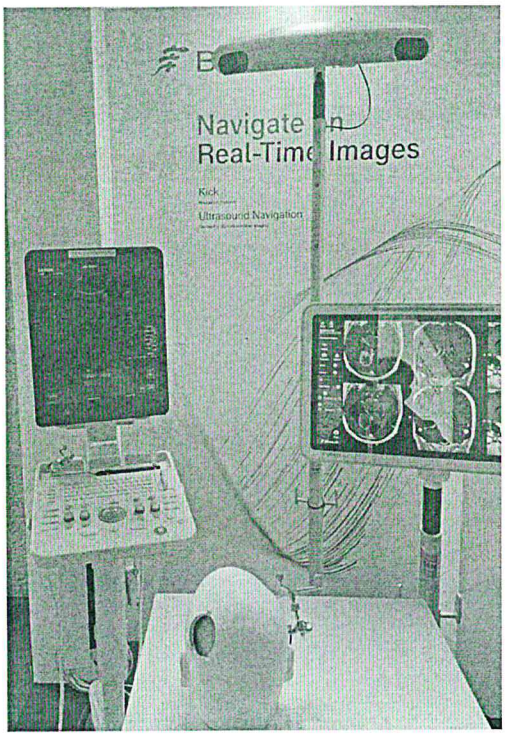
尖端醫療儀器

此次會議除了會議本身外，也包含了最新的醫療器材展示，像是最新的腦室腹腔引流管(圖一)，能有效降低術後引流管發生栓塞之機率進而降低許多術後需要再次手術之併發症可能；此外還有能夠搭配顯微鏡使用之術中放射線治療(IORT)(圖二)及最新能搭配醫院現有 BrainLAB 導航系統之超音波及時導引儀(圖三)

圖一: 新式腦室腹腔引流管,具有自我清潔功能,能預防管腔內栓塞



圖二: 能搭配蔡司 Zeiss 顯微使用之術中放射線治療系統, 能在顱內腫瘤手術時同時進行放射線治療



圖三: BrainLAB 公司推出之超音波導引導航系統(含顱內血流 Doppler 功能)

四、建議事項：

1. 在這次五天的亞澳神經醫學會中，見識到了許多國外跟我們不一樣的地方，不管是在手術技巧、流程或是重症照護方面，在現今講求精準醫療的時代，能夠多參加此類會議藉此學習或參考，以求更精進的醫療品質。
2. 在這次的會議中有看到超音波導引之導航系統，倘若能夠引進將能對顱內腫瘤手術之精細度有相當大幫助。
3. 本次會議中有討論到相當多跨國合作之大型 trial，希望以後台中榮總也有機會參與類似大型研究計畫。
4. 因應近年尖端醫療之發展，希望未來有更多機會能發展醫療用晶片及遠距醫學之應用，若能跟已有合作關係之中興大學進行交流或共同研究計畫相信能夠更加相得益彰。

Case report: A Rare Case with Coexisting Ossification of the Posterior Longitudinal Ligament and Cervical Intramedullary Hemangioblastoma

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Abstract

In this article we present a case of an Ossification of Posterior Longitudinal Ligament(OPLL) and spinal hemangioblastoma. The 64-year-old female was presented to our hospital experiencing worsening right thumb and index finger numbness.

Magnetic Resonance Imaging (MRI) revealed suspected OPLL with spinal cord encroachment over C2-C6 level. Besides, the T1-weighted with Gadolinium contrast series demonstrated a 11 mm in diameter, well enhancement intradural lesion at C4 level. Upon additional cervical spinal Computed Tomographic Angiography (CTA) study, the presence of OPLL was confirmed. Operation of C2 to C6 total laminectomy with lateral mass screws instrumentation and C4 spinal tumor removal were performed.

After surgery, histopathological examination demonstrated hemangioblastoma (WHO grade I) in the resected lesion specimen. Apart from clinical, radiological, and histopathological data, we also search the past literature relating to this unique combination of medical conditions, but no precedent was found. With regards to our case, the pre-surgical image survey provided us with much support towards making critical decisions. Surgery for the removal of simultaneously coexisting OPLL and hemangioblastoma is a unique but challenging task due to the potential risk of spinal cord damage.

Introduction

Among spinal intramedullary tumors, hemangioblastomas are relatively rare with a incidence rate of approximately 3%.[1] These benign tumors are mostly found in cervical or thoracic spinal cord and about one-third patients associated with von Hippel Lindau (vHL) disease. In this case report, we present a case with cervical spinal hemangioblastoma complicated with Ossification of Posterior Longitudinal Ligament(OPLL) and prominent syringomyelia.

Case Presentation

A 64-year-old female patient presented with muscle weakness of the right upper limb and worsening dysesthesia of the right thumb and index finger without other neurological deficits, including normal lower limbs muscle power. Personal and family histories of central nervous system (CNS) tumors were negative finding. Non-contrast magnetic resonance imaging (MRI) of the cervical spine from other institute revealed suspected ossification of the posterior longitudinal ligament (OPLL) at C2 to C6 levels with severe spinal cord compression and prominent syringomyelia (Figure 1). Repeated MRI in gadolinium-contrasted T1-weighted series showed a well-defined intradural tumor, about 11 mm in diameter, at the right posterior aspect of the C4 level (Figure 2 & 3). The pre-operative Computed tomographic angiography (CTA) also confirmed the same diagnoses.

Total laminectomies from C2 to C6 with instrumentation and the C4 tumor removal were performed. We first completed the instrumentation of C2 to C6 with lateral mass screws and rods fixation under C-arm fluoroscopy. Then we opened dura layer and arachnoid membrane for revealing the C4-C5 level intramedullary tumor. Under the microscope, pinkish and fibrous tumor with abundant vascular supplement was noted. Resection of the tumor was done after gradually gentle dissection, coagulation, and excision.

The patient was discharged 2 weeks after the surgery, walking unassisted with all limbs muscle power full. Transient urine retention was encountered but got resolved 1 weeks later.

Figure 1. The T2-weighted MRI revealed OPLL from C2 to C5 level and prominent syringomyelia.

Figure 2. The T1-weighted MRI with Gadolinium contrast showed an intradural tumor at C4 level.

Figure 3. The axial view of T1-weighted MRI with Gadolinium contrast showed the right-sided intradural tumor.

Histological Examination

The histological examination of the tumor was consistent with diagnosis of hemangioblastoma (WHO grade I); the result showed large neoplastic stromal cells accompanied with capillaries with variable sizes, closely packed and thin-walled vessels.

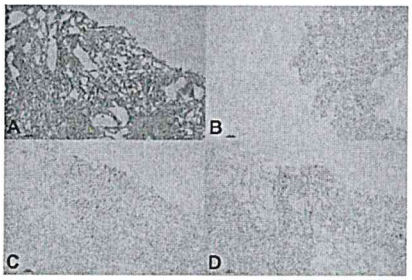

Figure 4. (A)Section shows spinal tissue and tumor composed of proliferation of capillaries with variable sizes, closely packed vessels and large neoplastic stromal cells. (B) IHC stain reveals focal weak positive of inhibin. (C) Positive staining of neuron specific enolase (NSE). (D) Focal weak positive staining for S-100.

Discussion

Simultaneous presentation of OPLL and hemangioblastoma are rarely encounters, while the coexistence of OPLL, hemangioblastoma and syringomyelia has never been reported in English literature. In very rare cases that presents with syringomyelia, intramedullary tumors such as hemangioblastoma or ependymoma should always be kept in mind and spinal MRI with contrast or angiography should be done if necessary.[2] On the other hand, we should be pay special attention while facing cases with cases of herniated disc, cervical spondylosis and OPLL complicated with prominent syringomyelia. It is unusual to see the combination of syringomyelia with extradural degenerative lesions such as osteophytes, herniated disc or calcified posterior longitudinal ligament. Thus, further examination to rule out any intradural or intramedullary lesion is necessary.

Several reported have demonstrated the preoperative embolization of spinal hemangioblastoma was a safe and useful procedure to decrease intraoperative loss of blood and facilitate the surgical removal of the lesion.[3] However, Saliou et al.[4]proposed complication with vertebrobasilar infarction with consequent unilateral cerebellar syndrome and gait instability. They also demonstrated that preoperative embolization was only recommended in highly selected cases. Until now, there is still no sufficient evidence demonstrating the real advantages of pre-operative embolization.

Regarding our case, missed diagnosis of the C4 hemangioblastoma could have happened if the focus was solely placed on how to treat the OPLL via anterior or posterior approach after a quick glance of the non-contrast spinal MRI. The operation might only focus on spinal canal decompression and instrumentation if the further Gadolinium-enhanced MRI or CTA was not indicated. Although rare, concomitant cervical hemangioblastoma should be listed in the differential diagnosis when OPLL with prominent syringomyelia is encountered. Besides, the patient did not receive preoperative embolization due to the high risk for the accidental migration of embolic material into the anterior spinal artery. As mentioned above, the preoperative is only recommended in those highly selected cases with multidisciplinary discussion amongst neurosurgeons and neuroradiologists.

Conclusions

Simultaneous presentation of OPLL and hemangioblastoma are rarely encounters, while the coexistence of OPLL, hemangioblastoma and syringomyelia has never been reported in English literature.

In the present case, the pre-surgical image survey provided us with much support towards making critical decisions. Surgery for cervical myelopathy cases that presents with syringomyelia, intramedullary tumors should always be kept in mind and spinal MRI with contrast or angiography should be done if necessary.

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財團法人櫻花文教基金會
國外出差心得報告書

111 年 7 月 1 日修訂

補助案編號： 111-02-56	
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會議中文名稱：第十六屆亞澳神經外科醫學會年會	
會議英文名稱：16th Congress of the Asian Australasian Society of Neurological Surgeons (AASNS)	
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出國期間： 自 111 年 9 月 4 日起 至 111 年 9 月 8 日止	
出國人員姓名	工 作 內 容
李啟瑞	出國出席會議, 病例討論壁報展示

心得報告：

很榮幸這次的病例討論的壁報投稿能夠雀屏中選，讓我能有機會參加這次第十六屆亞澳神經外科醫學會，在為期五天的議程中，不僅能夠與各國神經外科醫師互相交流，也於現場看到許多目前台灣還沒有使用的神經外科尖端儀器，不管是在手術房使用還是重症照護，著實讓我大開眼界。

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結論（效益）：

在這五天議程中能夠了解國際間神經外科學界之趨勢及尖端醫療，也能在這次的會議中增加台灣及台中榮總的國際能見度。

附件

□會議議程　　□照片或影像檔　　■其他：本次大會展示之壁報 PDF 檔

申請人：（簽章）

日期：　　年　　月　　日