出國報告

參加 2018 美國放射腫瘤學會年會報告

服務機關：台中榮總
姓名職稱：放射腫瘤部主治醫師
派赴國家：美國
出國期間：107 年 10 月 21 日到 24 日
報告日期：107 年 11 月 23 日

摘要（含關鍵字）

美國放射腫瘤學會年會(American Society for Radiation Oncology (ASTRO) Annual Meeting)，為全世界最大型的放射腫瘤會議之一，也是每年醫藥界備受矚目的一場年度會議。本次會議為第 60 屆會議，會期共 4 天於美國聖安東尼奧。本次會議職前往參加並發表口頭壁報論文「蛋白酶抑製劑 4 與血管內皮生長因子 A 的比值與膠質母細胞瘤化放療的預後之相關性分析」。本次會議議程共有 4 天，於 Henry B. Gonzalez Convention Center 舉行。

關鍵字：放射手術治療，放射治療

目次

一、 目的：參加重要國際會議，了解學習最新放射治療趨勢

二、 過程：搭長榮經多倫多轉機到聖安東尼奧參與 10 月 21 日到 24 日的會議

三、 心得：

今年的會議，有多位學者提出放射手術(SBRT)的重要性。例如在頭頸癌部分，從 Pittsburgh 來的口頭報告討論 SBRT 在 recurrent H&N cancer，回溯性分析 291 位使用 SBRT 的病人。

重點有：1. Median survival 9.8 months; 11.3% grade III above acute toxicity; 18.9% grade III above toxicity；2. 劑量愈高愈好，腫瘤<25 CC 預後較好；3. 定位影像很重要! 建議用 PETCT 定位，late toxicity 少；4. PETCT 於 SBRT 前後的 respose 和預後相關；5. SBRT 的分次治療療程期間要小於 2 週；6. 如果 D0.1cc < 39.4 Gy; D1cc < 28.3 Gyor D2cc , 1.01 Gy，沒有病人有 carotid bleeding。

另外，腦癌部分也提出相關的預後因子。NRG-RTOG 9813 是一項 III 期臨床試驗分析第 3 級膠質瘤患者。研究人員旨在發現 MGMT 基因表現之預後意義。進行單變量和多變量分析以確定 MGMT 基因表現作為連續變量對無進展存活和總體存活的影響。單變量分析結果顯示，升高的 MGMT 基因表現與較差的預後相關。

本次會議職必須作壁報口頭論文的講解，每一分組約有 10 人，輪流上前對於自己的壁報作 10 分鐘的英文解說，當場有人會提出問題或分享他們經驗。是一次很好的經驗，也了解到經由發表、解說、討論的過程中，彼此成長的的充實。

一、 建議事項（包括改進作法）

本次會議和去年相比，有越來越多質子治療的論文發表，這充分顯示質子治療於未來是必然的趨勢。現行單機版質子治療機越來越便宜，也越來越精良，現行每台大約 2000-3000 萬美金。而且不用另外蓋建築物，也相當省電。本院計畫蓋第 3 醫療大樓，建議院方應預質子治療機空間，並趁早向衛福部提出申請，以免衛福部管控名額額滿，本院面臨發展受限的瓶頸。

附錄

這次被 2018 ASTRO 錄取的論文摘要

Metalloproteinase inhibitor 4 to vascular endothelial growth factor A ratio is a prognostic factor of chemoradiation in glioblastoma

Purpose/Objective(s): Glioblastoma multiform is highly malignant and comes with worse survival. One of the hallmark of glioblastoma is angiogenesis. This study evaluated the anti-angiogenesis effect of chemoradiation and investigated the circulating angiogenesis-related factors that may be prognostic on survival.

Materials/Methods: Peripheral venous blood samples from newly diagnosed glioblastoma patients who received chemoradiation with temozolomide were prospectively collected. We used proteome antibody array (R&D Co.) to analyze 55 human angiogenesis-related proteins simultaneously. Quantification of the expression intensity was measured by digital imaging system (Bio Pioneer Tech Co.). Averages differences across paired pre- and post-chemoradiation samples were calculated by ANOVA. Tumor progression was defined according to RANO criteria by our radiologists. The predictive values on survival were estimated by Cox regression and Kaplan-Meier method.

Results: From July 2015 to April 2017, thirty-four patients were prospectively enrolled in this study. The expression intensity of angiogenesis-related proteins we analyzed are all decreased after chemoradiation. The declined expression of twenty-six proteins including metalloproteinase inhibitor 4 (TIMP4) are statistically significant. Further univariate analysis revealed that higher TIMP4 to vascular endothelial growth factor A ratio (TVR) is associated with worse progression-free survival (PFS) (p=0.048 and p=0.037, pre- and post-chemoradiation respectively). Using the cutoff value of 2, the patients with TVR ≥2 have significant worse PFS (p=0.017 and p=0.040, pre- and post-chemoradiation respectively).

Conclusion: Our results imply the anti-angiogenesis effect of chemoradiation in glioblastoma. TVR ≥2 may serve as a selection marker for early application of combined anti-angiogenic and chemoradiation.