惡性間皮細胞瘤之強度調控放射線治療

IMRT for a Malignant Mesothelioma

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摘要

目的:以強度調控放射線治療(IMRT)合併化學治療於惡性間皮細胞瘤之治療效果評估。材料與方法：此爲一位 65 歲男性、右側肋膜腔內有惡性間皮細胞瘤之病患，其主訴爲咳嗽帶有血絲已有 3 個月、呼吸短促、體重減輕。此病患之胸腔 X 光片中發現右側肋膜積水，初判爲肺癌。於 2003 年 1 月 3 日安排胸部電腦斷層掃瞄(CT scan)，發現右下肺門有腫塊及肺腫脹不全。最後根據 CT 影像，判爲肺腫脹不全之右下側支氣管肺癌，並且右側肺積水。施予肺積水引流後，再做一次胸部 X 光，發現肺肋膜增厚。於 2003 年 1 月 17 日，施予病理切片，報告指出爲上皮型之惡性間皮細胞瘤，CEA 染色呈陰性，而 CK 和 EMA 染色則呈陽性。TNM 期別爲 T2N1M0。隨即安排病患進行放射線治療。經 GE lightspeed 電腦斷層機，取得切片厚度爲 5 公厘之放射線治療用的定位 CT 影像，治療計畫系統爲 Eclipse 第六版。IMRT 治療部位爲右側整個肺肋膜，總劑量爲 64.6 格雷，自 2003 年 2 月 12 日至 4 月 22 日，爲期 61 天，共 38 次。放射治療 4 天前，病患先接受了的 cisplatin 100 毫克經靜脈之化學治療。結果：之後，病患在門診追蹤持續了幾個月。射線線治療後六個月內，都沒有復發。追蹤之 CT 影像中顯出，輕微肺積水及右側肺肋膜腔逐漸變小。於 2003 年 10 月發現腦轉移，2003 年 10 月 18 日至 2003 年 11 月 20 日，給予姑息性之全腦放射線治療，總劑量爲 42.5 格雷。該病患於 2003 年 11 月 30 日死亡。結論：惡性間皮細胞瘤在無法進行根除性開刀手術(EPP)之餘，強度調控放射治療亦爲一個選擇，並且沒有發生因高劑量的放射線而誘發的肺炎。此外，須要更多的臨床試驗去評估這新的治療方法之效益。

Abstract

Purpose: To report the use of intensity-modulated radiotherapy (IMRT) combined with chemotherapy in the treatment of a case of a malignant mesothelioma. Materials and Methods: A case of a malignant mesothelioma of the right pleural cavity is reported here. This 65-year-old male patient had an initial complaint of persistent cough with blood-tinged sputum for 3 months, and associated symptoms were progressive shortness of breath and body weight loss. Because the patient's chest x-ray revealed right pleural effusion, the initial impression was lung cancer. A chest CT scan was performed and

revealed a right infrahilar mass with atelectasis of the right lower lung, and a small nodular density in the right upper anterior lung segment. The final diagnosis of the CT scan was lung cancer of the right lower bronchus with atelectasis and right pleural effusion. A repeat chest PA after pleural fluid drainage revealed thickening of the right visceral and parietal pleurae. A thoracotomy with a pleural biopsy was performed 2 weeks after the CT scan. The pathology revealed an epithelial-type well-differentiated malignant mesothelioma; CK and EMA stains were positive, while CEA stain was negative. The TNM staging was T2N1M0. Radiotherapy was then arranged for this patient. A CT scan of the entire chest cavity in 5-mm slices was performed prior to radiotherapy for treatment simulation with a GE lightspeed scanner. Radiotherapy treatment planning was done with the Eclipse RTP system, version 6.5. Intensitymodulated radiotherapy (IMRT) was given to the entire right visceral and parietal pleurae for a total dose of 64.6Gy in 38 fractions over a 61-day period from Febuary 12 to April 22, 2003. The patient also received a course of chemotherapy with 100 mg cisplatin iv given 4 days before the start of radiotherapy. Results: The patient, who was followed-up in the outpatient clinic every month, had suffered no local recurrence by 6 months after radiotherapy, and a follow-up CT scan showed slight pleural effusion with progressive regression of the right pleural cavity. The patient suffered a brain metastasis in October 2003. Palliative radiotherapy for the entire brain was given from October 18 to November 20, 2003 for a total dose of 42.5Gy. The patient unexpectedly expired on November 30, 2003. Conclusions: IMRT is an alternative treatment option for a malignant mesothelioma which is otherwise unsuitable for a radical extrapleural pneumonectomy (EPP). No severe radiation-induced pneumonitis was noted even with the high dose of IMRT. More clinical trials are needed to determine the benefit of this new treatment modality.