

relieved pain in 83.3% of symptomatic patients (5/6). Five patients with separate metastatic pulmonary nodules showed multiple hematogenous lung metastases within 2 months follow up. However, multiple local control rates was 75% (3/4) in the primary lung cancer patients with extrapulmonary metastatic lesions, and only one patient recurred as hematogenous lung metastases at 8 months follow up. The Grade II toxicities included skin reaction in 1 patient, and esophagitis in 2 patients. The main GIII toxicity was leucopenia in 2 patients.

Conclusions: Helical tomotherapy was effective for symptom palliation by multiple local controls in lung cancer patients with multiple extrapulmonary metastatic diseases. However, patients with separate multiple pulmonary nodules showed no benefit for tomotherapy.

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Optimization of lung IMRT Treatment plans using a beam direction and virtual organ delineation

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Background: We introduce a pulmonary cancer patient IMRT process, the radiotherapy it confronts to the possibility of the beam for the optimization of plan and the use of direction, the VOD and dose restriction factor it evaluates with the place where it minimizes the dose which is used in the lung and the heart it evaluates the useful characteristic of the IMRT techniques which it uses.

Methods: The tumor permeated to the mediastinum and during relatively long time it did 5 person lung cancer patients where the error which is located small in the object. The patient immobilization devices to side overlook maintains the upper half of body and fixes the location of the arm, the belt uses. Then it press the epigastrium, it was decreased moving internal organs due to a respiratory movement. The treatment plans, the beam number and direction used 5,7,9 portal (from 200 to 160, equispaced field), 4 portal (anterior, posterior, bilateral posterior oblique field) and an-isotropic 7, 9 portal (non-equispaced field, arbitrary field). The dose restriction is based on the reference and it set, appropriately, virtual organ used. So, we got the therapy plan result which had become optimization. The radiotherapy plans evaluated dose volume histogram (DVH), used a isodose curve and the dose-statistics. Specially, before and after setting up the virtual organ delineation and it analyzed a kindness data and it confirmed the useful characteristic.

Results: Methods of equispaced 9 portal IMRT and non-equispaced 7 portal IMRT are good results within 20% by PVT dose homogeneity, mean lung dose and V20, V25. And getting same good result by setup the virtual organ delineation. Also, know the possibility of complement error during treatment by using clinical draw up lung cancer IMRT protocol.

Conclusions: We draw up the protocol, it will be able to use in lung cancer IMRT, and know the possibility of getting the optimization of treatment plans with set of the virtual organ delineation which is appropriate and the irradiation plans.

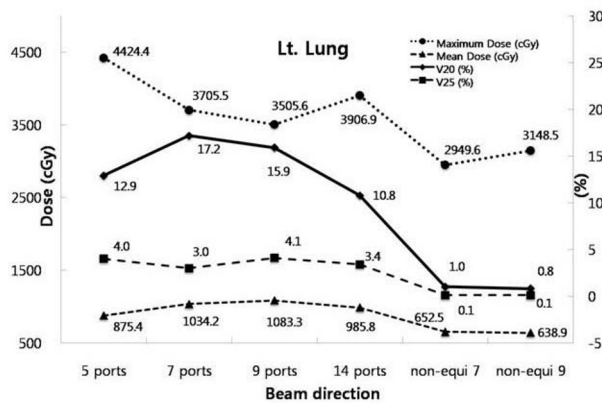


Fig 1. It shows that mean results of lung dose (V20, V25) for beam configuration, c) Lt. Lung.

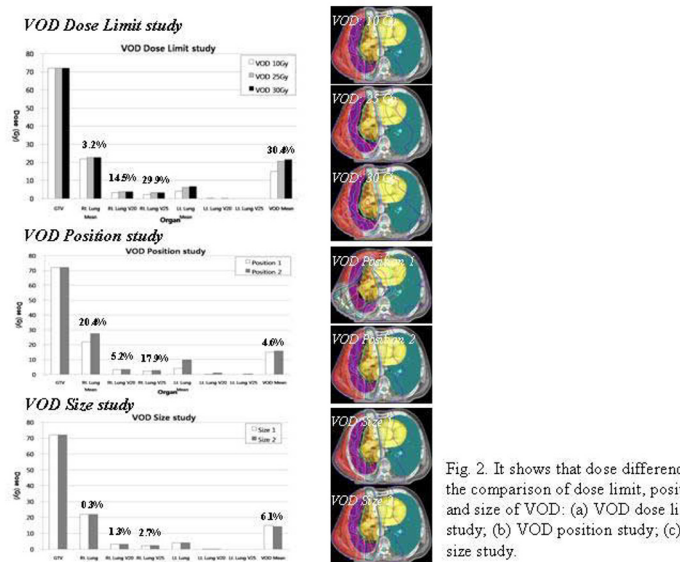


Fig 2. It shows that dose different the comparison of dose limit, position and size of VOD: (a) VOD dose limit study, (b) VOD position study, (c) size study.

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Surgery versus radiosurgery for single synchronous brain metastasis from non-small cell lung cancer

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Objective: The aim of this study is to compare the effectiveness of surgery with that of radiosurgery for patients with a single synchronous brain metastasis from successfully treated non-small cell lung cancer.

Method: Between 1995 and 2002, fifty-three patients underwent resection of both a primary non-small cell lung cancers and the associated single brain metastasis. There were 33 men and 20 women with a mean age of 57 years (range, 32-85 years). At the time of diagnosis, forty-two patients experienced lung cancer related symptoms, whereas 11 patients experienced brain metastases-related symptoms. Forty-two patients had undergone thoracic surgery first, and 11 patients had undergone neurosurgery or radiosurgery first. Pneumonectomy was performed in 9 out of 42 patients (21.4%), lobectomies in 30 (71.4%), and wedge resection in 3