Radiotherapy applications of patients with malignant mesothelioma: A single center experience

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Abstract

Background

In the management of malignant pleural mesothelioma, radiotherapy has been used for the purpose of prophylaxis to reduce the incidence of recurrence at surgical insertion sites or palliate the symptoms.

Aim

The purpose of the study was to evaluate the techniques and effectiveness of radiotherapy in malignant pleural mesothelioma.

Materials and methods

Forty-four (18 female, 26 male) patients diagnosed with malignant pleural mesothelioma were retrospectively evaluated. All patients had surgery or thoracoscopic biopsy for diagnosis, staging or treatment and all received palliative or prophylactic radiotherapy. Fifty-seven percent of the patients received chemotherapy.

Results

Prophylactic radiation was applied to 27 patients with 4–15 MeV electron energies. The median radiotherapy dose was 30 Gy with 3 Gy daily fraction dose. During treatment, 12 patients had grade 1 erythema according to the RTOG scale. In 3 (12%) patients, a local failure at treatment field was observed. Palliative radiotherapy was applied to 17 patients for pain palliation. The median radiation dose was 40 Gy with 2 Gy daily fraction dose by using 6–18 MV photon and/or 4–12 MeV electron energies. Two patients had grade 1 erythema and one patient had grade 2 odynophagy according to the RTOG scale. For 10 (59%) patients, palliation of chest pain was delivered. No late toxicity was observed for all cases.

Conclusion

Our experience showed that prophylactic and palliative radiotherapy are effective and safe therapy modalities in malignant pleural mesothelioma in preventing seeding metastasis at intervention sites or relieving pain. Prospective randomized studies are still needed to determine the benefits of radiotherapy application and to indicate optimum dose schemes.

Keywords

Malignant pleural mesothelioma; Prophylactic radiotherapy; Palliative radiation