Radiotherapy for malignant pleural mesothelioma

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ABSTRACT

Background
Malignant pleural mesothelioma is a relatively uncommon disease, but the incidence is increasing and is expected to peak in many developed countries in the next two decades. The management of patients with malignant mesothelioma is controversial. Very few patients are suitable for any potentially curative treatment and the effectiveness of radical therapy with surgery, radiotherapy and/or chemotherapy in curing patients or prolonging survival is uncertain. The role of radiotherapy is controversial although it has been used as part of multimodal therapy. The present review will try to clarify these uncertainties.

Objectives
To assess the effectiveness and safety of radiotherapy on patients with malignant pleural mesothelioma in any stage of the disease.

Search strategy
We searched the Cochrane Central Register of Controlled Trials (The Cochrane Library Issue 4, 2008), MEDLINE (1966 to January 2009) and EMBASE (1974 to January 2009). We performed handsearches aimed at the identification of evidence by reviewing journals not indexed in databases, conference proceedings and/or scientific meetings.

Selection criteria
We included all randomised controlled clinical trials using radiotherapy for malignant pleural mesothelioma in any stage, alone or combined with other therapies in patients of either sex and any age. We excluded studies without a control group.

Data collection and analysis
No studies fulfilled the inclusion criteria.

Main results
We found no reports of randomised comparisons of radiotherapy alone or combined for patients with malignant pleural mesothelioma.

Authors’ conclusions
As radiotherapy has never been compared to chemotherapy or surgery or to best supportive care (as part of combination therapy) in a prospective, randomised trial, there are no data to support one or the other treatment as a better option for patients with malignant pleural mesothelioma. There is a need for multicentre controlled randomised trials assessing the role of radiotherapy in the radical treatment of malignant pleural mesothelioma. The studies should be limited to patients with malignant pleural mesothelioma, classified...
by stage, cytology and type of radiotherapy. The type of radiotherapy should be defined in advance and variables of radiotherapy dose definition and delivery should be carefully controlled.

PLAIN LANGUAGE SUMMARY

There is no evidence that radiotherapy could help to cure or to prolong the survival of patients with malignant pleural mesothelioma

The incidence of malignant pleural mesothelioma is increasing and is expected to peak in many developed countries in the next two decades. In 80% of the patients with malignant pleural mesothelioma there is a clear history of occupational or domestic exposure to asbestos. Very few patients are suitable for any potentially curative treatment and the effectiveness of radical therapy with surgery, radiotherapy and/or chemotherapy in curing patients or prolonging survival is uncertain. The role of radiotherapy is controversial. It has been used as a component of multimodal therapy (plus chemotherapy and/or surgery). The reviewers have not found any reports of randomised controlled trials (RCTs) that show that radiotherapy is an effective option for malignant pleural mesothelioma. There is a need for multicentre experimental studies assessing the role of radiotherapy in this disease.