Systematic review of multidisciplinary teams in the management of lung cancer

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CRD summary
The review concluded that limited evidence was found linking multidisciplinary teams with improved lung cancer survival and that further prospective research was needed. The reliability of the authors' conclusion was unclear based on the incomplete reporting of study characteristics, lack of control groups and limitations in reporting and conduct of review methodology.

Authors' objectives
To evaluate the effectiveness of multidisciplinary teams for the treatment of lung cancer.

Searching
MEDLINE was searched from 1984 to July 2007. Search terms were reported. Reference lists of retrieved articles were scanned for additional studies.

Study selection
Studies of any design evaluating the use of a multidisciplinary team including specialists with diagnostic and therapeutic intent, which met at specified times to discuss the diagnosis and management of participants with suspected lung cancer, were eligible for inclusion. Studies of team meetings held in person or by video or teleconference were eligible for inclusion. The primary outcome of interest was survival.

Multidisciplinary interventions in the included studies were compared to traditional models of care. Some studies also had co-interventions operating alongside multidisciplinary teams. The participants in the included studies had various stages of small cell lung cancer. In addition to survival other outcomes assessed in the review were practice patterns, waiting times, satisfaction with care, visits to general practitioner and quality of life. Two reviewers independently selected studies for inclusion. Disagreements were resolved through discussion.

Assessment of study quality
Studies were assessed for: randomisation; description of participant characteristics, intervention and comparator; and whether potential confounders were considered in the analysis. The authors stated neither how validity was assessed nor how many reviewers performed the validity assessment.

Data extraction
Two reviewers independently extracted data and resolved disagreements through discussion.

Methods of synthesis
The studies were combined in a narrative synthesis, grouped by study design.

Results of the review
Sixteen studies (n unknown) were included in the review (one RCT; seven before-and-after studies; eight case series or audits with no comparator group). Only studies with a comparator group were included in the analysis.

Survival (one RCT, four before-and-after studies)
One study reported an improvement in median survival of 3.2 months (p<0.001) for the multidisciplinary group compared to the control group. Another study reported an increase in the number of lung cancer patients older than 70 years surviving at one year (increase from 18.4 per cent to 23.5 per cent, p=0.049) for those receiving care from the multidisciplinary team. Three other studies, including one RCT, found no statistically significant differences between groups.

Other outcomes
A greater percentage of participants in the multidisciplinary group received radical treatment such as chemotherapy, radiotherapy or resection compared to those in the control arm (six studies). This difference reached statistical significance in the before-and-after studies, but not in the RCT. Higher rates of resection were reported in multidisciplinary groups in three other studies (three before-and-after studies). Two studies (one RCT, one before-and-after study) reported reductions in median time from presentation to first treatment for multidisciplinary groups. One before-and-after study found no statistically significant differences between groups for waiting times. Significantly fewer visits to a general practitioner were reported for the multidisciplinary group compared to the control group (p<0.02, one RCT). There were no statistically significant differences between groups in terms of quality of life (one RCT)

Authors' conclusions
Limited evidence was found linking MD teams with improved lung cancer survival. Further prospective research was needed.

CRD commentary
The review question and inclusion criteria were broadly defined. Only one database was searched and this may have resulted in the omission of other relevant studies. Papers written in languages other than English were eligible for inclusion, reducing the potential for language bias. No attempt was made to locate unpublished studies, thus raising the possibility of missing relevant data and publication bias. Methods were used to minimise reviewer errors and bias in the selection of studies and extraction of data, but it was not clear whether similar steps were taken in assessment of validity. Validity was assessed, although there were some limitations of the criteria used. A narrative synthesis was appropriate given the differences between studies. The authors stated that only studies which included a comparison group were included in the analysis. This resulted in less than one third of the included studies being included in the analysis. Limited details were presented on the number and demographics of participants in the included studies, thus it may be difficult to generalize the review findings. In summary, the reliability of the authors' conclusion is unclear based on the incomplete reporting of study characteristics, lack of control groups and limitations in reporting and conduct of review methodology.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that further prospective studies were needed to evaluate the effectiveness of multidisciplinary teams and that these should include the recording of potential confounders.

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