Individual patient based meta-analysis of lentinan for unresectable/recurrent gastric cancer
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CRD summary
This review based on individual patient data (650 patients) found a modest increase in overall survival rates in patients with advanced gastric cancer treated when a combination of fluorinated pyrimidines and lentinan was used compared with the chemotherapy alone. The results are likely to be reliable assuming that the small sample size did not limit generalisability.

Authors' objectives
To determine overall survival rates in patients with advanced gastric cancer treated with a combination of fluorinated pyrimidines and lentinan compared with the chemotherapy alone

Searching
MEDLINE, PubMed and ICHUSHI electronic databases were searched. Search dates were not reported, but trials were required to conclude before the end of 2007. Bibliographies of reviews were searched. Additional studies were sought from researchers. Search terms were reported.

Study selection
The review included RCTs with central randomisation that compared chemotherapy and lentinan with identical chemotherapy in patients with unresectable or recurrent gastric cancer. Trial duration ranged from two to five years. Median follow-up was six months. Lentinan dose was 2mg/week in all trials. Chemotherapy dose ranged from 250mg/day to 600mg/day and included differing combinations of fluorinated pyrimidines. The outcome was overall survival.

The authors did not report how many reviewers performed study selection.

Assessment of study quality
Balance of baseline characteristics was checked using individual patient data.

Data extraction
Individual patient data were obtained from trialists. Patient and study characteristics were extracted. Time to event data were extracted for the overall survival outcome. Adverse events were catalogued.

Methods of synthesis
Hazard ratios and 95% CIs were calculated using Cox’s proportional hazard model. Sensitivity analysis assessed the impact of prognostic factors. Interaction tests were undertaken on age (above and below 65 years), sex, recurrent or unresectable gastric cancer, peritoneal metastasis, hepatic metastasis and lymph-node metastasis. X² tests were used to assess heterogeneity.

Results of the review
Individual patient data were obtained from five trials (650 patients) out of 10 (953 patients) that were potentially eligible. Baseline characteristics were balanced except for hepatic metastasis, which was more prevalent in the standard care comparator group.

The overall survival hazard ratio was 0.8 (95% CI 0.68 to 0.95). There was no significant heterogeneity between trials. Adjustment for baseline characteristics marginally increased the potential benefit of chemotherapy and lentinan (HR 0.76, 95% CI 0.64 to 0.90). Subgroups did not explain any heterogeneity in the results.

Authors' conclusions
The addition of lentinan to standard chemotherapy significantly prolonged the overall survival of patients with advanced gastric cancer when compared to chemotherapy alone.
This review utilised appropriate methods to minimise bias in the identification, selection and acquisition of individual patient data. Individual patient data could not be obtained for all trials. Qualitative comparison of aggregate and individual patient data suggested that the data did not differ systematically from the aggregate data. Standard individual patient data methods were used to validate the integrity of randomisation and to pool survival data.

The conclusion that lentinan in combination with chemotherapy resulted in a modest increase in survival in comparison to standard chemotherapy reflected the evidence and is likely to be reliable, but small sample sizes may limit generalisability.

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

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