Evaluation of morbidity of suction drains after retroperitoneal lymphadenectomy in gynecological tumors: a systematic literature review

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CRD summary
This review concluded that prophylactic use of continuous suction drains after retroperitoneal lymphadenectomy for management of gynecological tumors should be avoided unless there were contrary intraoperative indications. This conclusion reflected the significant difference in the composite outcome of total complications. However, the included studies comprised a relatively small number of patients and no individual outcome showed a statistically significant difference.

Authors' objectives
To assess the morbidity associated with the use of drains compared with no drains after retroperitoneal lymphadenectomy for the management of gynaecological tumors.

Searching
MEDLINE (from 1966), EMBASE (from 1980) and The Cochrane Library (from 1984) were searched up to August 2007. Abstracts of studies published in congresses were searched and authors contacted. Search terms were reported. No language restrictions were employed.

Study selection
Randomised controlled trials (RCTs) that compared use of drains to no drains in women of any age after retroperitoneal lymphadenectomy for management of gynaecological tumours were eligible for inclusion in the review. The following outcomes were assessed: fever-related morbidity; lymphocysts and symptomatic lymphocysts; fistulas; deep-vein thrombosis; pelvic infection; length of hospital stay; length of postoperative ileus; and total complications.

A range of gynaecological tumours was represented in patients in included studies. Patients' mean age ranged from 42.9 to 56 years. All studies included some node-positive patients. All included studies used antibiotic prophylaxis.

Three independent reviewers selected the papers for the review; disagreements were resolved through consensus.

Assessment of study quality
Studies were assessed for validity using the CONSORT (Consolidated Standards of Reporting Trials) criteria. Only studies considered to be of good quality were eligible for the review. Good-quality studies were not further defined.

Three independent reviewers performed the validity assessment.

Data extraction
Data were extracted to permit calculation of relative risks (RR) with 95% confidence intervals (CI) for dichotomous outcomes and mean differences with 95% CI for continuous outcomes.

The authors did not state how many reviewers performed data extraction.

Methods of synthesis
Random-effects model meta-analyses were used to calculate pooled relative risks with 95% CI for dichotomous outcomes and weighted mean differences (WMDs) with 95% CI for continuous outcomes. Where statistically significant differences were found, numbers needed to treat (NNT) or harm (NNH) were calculated. Statistical heterogeneity was assessed using the $X^2$ ($p<0.05$ was used to determine significance) and $I^2$ (criterion of 25%) statistics.
Results of the review
Four RCTs (n=571) were included in the review.

The composite outcome of total complications showed a significant benefit for no use of drains (RR 1.76, 95% CI 1.04 to 3.01, NNH=12.2; four RCTs). There was no evidence of statistically significant heterogeneity for this outcome.

There were no statistically significant differences between the groups in any other outcome, including fever morbidity (RR 0.60, 95% CI 0.29 to 1.25; four RCTs). Statistically significant heterogeneity was noted for lymphocyst.

Authors’ conclusions
The prophylactic use of continuous suction drains after retroperitoneal lymphadenectomy in management of gynecological tumours should be avoided unless there was an intraoperative indication for their use, such as significant blood loss or concerns about intraoperative fistulas.

CRD commentary
The review question and the initial inclusion criteria were clear. The authors searched three relevant databases and other sources. A systematic search for grey literature and a lack of language restrictions reduced risks of missed relevant studies and presence of language and publication biases. The authors reported using methods designed to reduce reviewer bias and error in the selection of studies and assessment of validity, but not in data extraction.

The validity assessment used appropriate criteria, but it was unclear what definition was used for good-quality studies eligible for inclusion in the review. The decision to use meta-analyses appeared appropriate. The assessment of statistical heterogeneity used reasonable tests, but with non-standard thresholds of significance.

The authors’ conclusions and recommendations for practice reflected the significant difference in the composite outcome of total complications. However, it should be borne in mind that the included studies comprised a relatively small number of patients and that none of the individual outcomes showed a statistically significant difference between the groups.

Implications of the review for practice and research
Practice: The authors stated that prophylactic use of continuous suction drains after retroperitoneal lymphadenectomy in management of gynecological tumours should be avoided unless there was an intraoperative indication for their use, such as significant blood loss or concerns about intraoperative fistulas.

Research: The authors did not state any implications for further research.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.