Long-term outcomes with transfascial sutures versus tacks in laparoscopic ventral hernia repair: a review
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CRD summary
This review concluded that there was little difference in recurrence risk, mesh removal and postoperative pain between laparoscopic ventral hernia repair with trans fascial sutures and without sutures. Patients who received sutures had an increased rate of infection at the surgical site. This review had a number of methodological problems and the results should be treated with caution.

Authors' objectives
To compare the long-term outcomes of transfascial sutures and tacks in laparoscopic ventral hernia repair.

Searching
PubMed and Current Contents were searched up to June 2009 for studies in English. Search terms were documented in the report. The authors stated that relevant journals were searched, but no further details were provided.

Study selection
Eligible studies had to be case series or controlled studies of 50 or more patients who underwent abdominal laparoscopic hernia repair. Minimum follow-up was 12 months. Studies were excluded if they did not report mean or median follow-up times, recurrence rates or surgical technique.

Types of mesh used were mainly expanded polytetrafluoroethylene (ePTFE), composite mesh or polypropylene. Where reported, 50% or more of study participants were obese. Average area of hernia defect was 133cm². Transfascial sutures were the most common primary means of fixation; most of these studies also used tacks or staples at the periphery of the prosthesis. Other studies used tacks and/or staples as the primary method of fixation; sutures were not used in addition to tacks and/or staples in most cases.

The authors did not state how many reviewers selected studies for inclusion.

Assessment of study quality
The authors did not assess study quality, but they reported on use of intention-to-treat analysis.

Data extraction
Percentages of adverse events were calculated for each study. In comparison trials only the laparoscopic arm was extracted (if it included ≥50 patients).

The authors did not state how many reviewers extracted data.

Methods of synthesis
Numbers of adverse events for studies with and without sutures were pooled separately and statistical tests were conducted to determine any significant differences between the treatments.

Results of the review
Forty-three studies were included in the review (8,465 patients). Twenty-nine studies used sutures (6,015 patients) and 16 studies used tacks and/or staples (2,450 patients) as the primary means of fixation. Median follow-up was 25 months (sutures 24 months and no sutures 33 months).

No significant differences for primary recurrence were found between groups that received sutures and those that did not (3.9% versus 4.3%, p=0.399). Overall recurrence with mesh removals added to the recurrence rate (4.5% versus 4.7%, p=0.639) and prolonged postoperative pain (2.9% versus 3.5%, p=0.190). The suture group had a 0.6% absolute increase in infection rate over the tacks group (1.5% versus 0.9%, p=0.0210).
Authors' conclusions
There was little substantive difference in recurrence risk, mesh removal and postoperative pain between studies that used transfacial sutures when compared to those that omitted sutures. Patients who received sutures had an increased rate of infection at the surgical site.

CRD commentary
This study was based on defined inclusion criteria. It was not clear which journals were handsearched. It was not clear that unpublished material was eligible for this review, which opened up the possibility of publication bias. Studies in languages other than English were ineligible and this risked language bias. There was no assessment of study quality. Studies were pooled without reference to study quality or design. It was unclear whether two reviewers were involved in the review processes (such methods would help to minimise bias and error). The results were not based on direct comparisons of groups within a trial.

Concerns about the review methods mean that the results should be treated with caution.

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

Research: The authors stated that a randomised controlled trial would be needed to address the question of which technique was superior. Such a study would require large numbers of patients to be followed for a prolonged amount of time to assess for changes in patient outcome.

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