Long-term outcomes of stapled hemorrhoidopexy vs conventional hemorrhoidectomy: a meta-analysis of randomized controlled trials


CRD summary
The authors concluded that stapled haemorrhoidopexy was a safe technique for haemorrhoid surgery, but carried a significantly higher risk of recurrence and additional operations compared with conventional haemorrhoidectomy. Evidence appeared to support the authors' conclusions, but the relatively poor quality of the included trials and potential differences between them limit the reliability of these conclusions.

Authors' objectives
To compare the long-term effects of stapled haemorrhoidopexy with conventional haemorrhoidectomy.

Searching
MEDLINE, EMBASE and the Cochrane Library were searched for studies published in any language. Search terms were reported, but search dates were not.

Study selection
Randomised controlled trials (RCTs) were eligible for inclusion if they compared stapled haemorrhoidopexy with conventional haemorrhoidectomy and had a minimum follow-up period of 12 months. Stapled haemorrhoidopexy and conventional haemorrhoidectomy were defined in the review.

The primary review outcomes were measures of haemorrhoidal recurrences (recurrent bleeding or prolapse) and the need for further interventions. Secondary outcomes included pain at defaecation, anal stenosis, faecal urgency, faecal incontinence, other complications, and patient satisfaction.

The included trials of conventional haemorrhoidectomy used the Ferguson or the Milligan-Morgan methods. Where reported, trials were in patients with varying degrees of haemorrhoids (second/third, third, third/fourth, fourth and all degrees). Trials involved different numbers of centres (range one to 17); some multicentre trials included small numbers of patients.

The authors did not state how papers were selected for the review.

Assessment of study quality
Two reviewers independently assessed validity using the Jadad criteria (randomisation, blinding and withdrawals). Trials scoring 3 or more (out of the maximum of 5 points) were considered high-quality.

Data extraction
Two reviewers independently extracted outcomes data as odds ratios (ORs) and 95% confidence intervals (CIs) using a specially designed form.

Methods of synthesis
Pooled odds ratios and 95% confidence intervals were calculated; methods used were not reported.

Subgroup analysis was used to examine the influence on recurrent prolapse of the degree of haemorrhoids (third, fourth and mixed/unspecified).

Results of the review
Fifteen RCTs were included in the review (n=1,201 patients). Six RCTs scored 3 out of 5 points and were considered high-quality, eight RCTs scored 2 points, and one RCT scored 1 point. Six of the 15 RCTs reported that surgeons were
well-trained in the stapled haemorrhoidopexy procedures. The duration of follow-up ranged from 12 to 84 months.

Outcomes were reported at one-year

Compared with conventional haemorrhoidectomy, stapled haemorrhoidopexy was associated with statistically significantly higher rate of recurrent prolapse (OR 5.5, 95% CI 2.7 to 11.3; 14 RCTs; n=1,063 patients) and a significantly higher risk of additional operations (OR 1.9, 95% CI 1.0 to 3.5; 10 studies; n=824 patients). There was no statistically significant difference between stapled haemorrhoidopexy and conventional haemorrhoidectomy in recurrent bleeding (seven RCTs; n=362 patients).

There was no statistically significant difference between stapled haemorrhoidopexy and conventional haemorrhoidectomy in pain at defaecation, anal stenosis, faecal urgency, faecal incontinence, skin tags, pruritis ani, anal fissure or anal fistula. Stapled haemorrhoidopexy was associated with statistically significantly higher rate of tenesmus (13.8% versus 0%; p<0.001; two RCTs; n=131 patients).

Authors' conclusions
Stapled haemorrhoidopexy was a safe technique for haemorrhoids but carried a significantly higher risk of recurrence and additional operations compared with conventional haemorrhoidectomy.

CRD commentary
The review question was clearly stated and inclusion criteria appropriately defined. Several relevant sources were searched. Attempts were made to minimise language bias but only published data were included, raising the potential for publication bias. Methods were used to minimise reviewer errors and bias in the extraction of data and assessment of validity, but it was not clear whether similar steps were taken in study selection.

Trial validity was assessed, but only composite scores were reported; about half of the trials appeared to be low quality. Data were pooled using meta-analyses, but methods used (fixed-effect or random-effects) were not reported, and statistical heterogeneity was not assessed, so it was not clear if study outcomes were sufficiently similar to make pooling appropriate. The effect of haemorrhoidal degree on outcomes was examined.

The evidence appeared to support the authors' conclusions, but the apparently limited quality of the included trials and the lack of assessment of heterogeneity between trials limit the reliability of these conclusions.

Implications of the review for practice and research
Practice: The authors stated that information about the higher rate of recurrence, additional operations and tenesmus associated with stapled haemorrhoidopexy should be openly discussed with patients requiring treatment for haemorrhoids.

Research: The authors did not state any implications for 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.