Faecal incontinence after seton treatment for anal fistulae with and without surgical division of internal anal sphincter: a systematic review

Vial M, Pares D, Pera M, Grande L

CRD summary
This review found that, based on low evidence studies, intra-operative preservation of internal anal sphincter at the time of seton insertion for anal fistula seemed to reduce postoperative faecal incontinence without substantial increases in recurrence rates. The reliability of these conclusions is unclear given the possibility of missing studies, limitations in the quality assessment and failure to incorporate comparative data.

Authors' objectives
To analyse the influence of intra-operative internal anal sphincter division (IAS) during tight or cutting seton technique for cryptogenic anal fistula on recurrence and postoperative faecal incontinence.

Searching
MEDLINE, Cochrane, SciELO Espana and Indice Medico Espanol were searched from 1966 to 2007. Search terms were reported. The review was restricted to studies in English, French, German, Italian and Spanish.

Study selection
Primary studies of adults with anal cryptogenic fistula treated by cutting or tight non-medicated seton were eligible for inclusion. Studies in which patients received additional surgical treatments were excluded. Primary outcomes were fistula recurrence rate, prevalence of any postoperative type of faecal incontinence (flatus incontinence, liquid stool incontinence, solid stool incontinence and soiling) and overall postoperative faecal incontinence.

Most included studies assessed the cutting technique; some assessed the tight technique. Seton material included mersilene, rubber, silk, nylon, prolene, polyester, polyamide and non-absorbable braided suture. Only six studies used a validated faecal continence score, one used an ad hoc scale and the other studies reported descriptive data.

The authors did not state how studies were selected for inclusion.

Assessment of study quality
Study quality was assessed using summary quality scores constructed of scores awarded for study design, sample size, justification of sample size, definition of objectives, reporting and justification of design, reporting of selection criteria and sample size calculation. Possible scores ranged from 6 to 36.

Two reviewers independently performed the quality assessment. Disagreements were resolved through consensus.

Data extraction
Data were extracted to calculate the proportion of patients with each of the outcomes of interest. Data were extracted separately for patients in which the technique was preservation of IAS (PIAS group) and patients in which the surgical section of IAS was performed intra-operatively at the time of seton placement (SIAS group). If studies reported data on both groups of patients, each group was treated as a separate series of patients.

The authors did not state how many reviewers extracted data.

Methods of synthesis
The median and range of patients with recurrence and overall faecal incontinence was reported separately for patients in the PIAS group and those in the SIAS group.
Results of the review
Eighteen studies were included in the review (n=448): one clinical trial, two cohort studies and 15 case series. Median quality score was 9 (range 6 to 16) out of the maximum 36 points. Median length of follow-up was 16 months (range four to 96 months).

Intra-operative PIAS was associated with a higher recurrence rate and lower rate of faecal incontinence. The median recurrence rate was 5% (range zero to 12%) in the PIAS group and 3% (range zero to 16%) in the SIAS group. The median overall postoperative faecal incontinence was 5.6% (range zero to 52.4%) in the PIAS group and 25% (range zero to 75%) in the SIAS group.

Authors' conclusions
Although based on low evidence studies, intra-operative preservation of internal anal sphincter at the time of seton insertion for anal fistula seemed to reduce the postoperative faecal incontinence without a substantial increase in recurrence rates.

CRD commentary
The review addressed a clear question. Inclusion criteria were appropriately defined. The literature search was adequate, but no specific attempts were made to locate unpublished data and the review was restricted to studies in specified languages. There was, therefore, a possibility of language and publication bias. Appropriate steps were taken to minimise bias and errors when assessing quality; it was unclear whether such steps were taken when selecting studies and extracting data. Study quality was assessed using some relevant criteria, but some important potential sources of bias were not considered. Summaries across studies consisted of reporting median outcome values. A formal meta-analysis may have been preferable and could have included formal assessment of heterogeneity and statistical comparison of outcomes between groups. All the comparisons reported in the review were indirect and where studies assessed both types of intervention each comparison group was treated as a separate case series. It would have been more informative to have presented results for any direct comparisons reported in the included studies.

The authors' conclusions include some degree of caution, but their reliability is unclear given the possibility of missed studies, limitations in the quality assessment and failure to appropriately incorporate comparative data.

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

Research: The authors stated that well-designed controlled studies were warranted to establish the most effective treatment for anal fistula.

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