Surgical treatment of chronic patellar tendinosis: a systematic review

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CRD summary
This review evaluated surgical treatments for patients with chronic patellar tendinosis. Given the disparity of treatments evaluated and the low level of evidence, inferences based on combined clinical outcomes need to be treated with caution. The authors, appropriately, stated that they were unable to draw any substantial conclusions.

Authors' objectives
To assess whether surgical debridement of abnormal tissue in proximal patellar tendinosis is effective in relieving pain with activity.

Searching
MEDLINE, EMBASE, CINAHL and SPORTDiscus were searched from 1990 to 2005 for relevant English language publications; the search terms were reported. The reference lists of identified articles were also checked.

Study selection
Study designs of evaluations included in the review
Inclusion criteria were not specified in terms of the study design. Studies that had fewer than 10 participants or less than 1 year' follow-up were excluded.

Specific interventions included in the review
Studies of surgical interventions that excise abnormal tendonitis tissue were eligible for inclusion if the surgical procedure were reported. Studies of combined surgical interventions were excluded. Where reported, the procedures evaluated included closed and not closed paratenon; bony patella work was undertaken in some studies.

Participants included in the review
Studies of patients with chronic patellar tendonitis were eligible for inclusion. Studies of patients with complete tendon ruptures, or mid or distal patella tendon lesions were excluded. Where reported, the average age of the participants was between 20 and 31 years, the majority were male, and the duration of symptoms before treatment was between 6 months and 3.2 years.

Outcomes assessed in the review
Studies reporting surgical outcomes were eligible for inclusion. The outcomes were reported as being successful or not.

How were decisions on the relevance of primary studies made?
Two reviewers selected studies for the review; it was not stated how any disagreements were resolved.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction. The proportion of surgical procedures that were successful and the proportion of patients who returned to sport were extracted from each study.

Methods of synthesis
How were the studies combined?
The weighted average proportions of successful surgical procedures were calculated.

How were differences between studies investigated?
Some study details were tabulated. Differences between the studies were discussed in the text.
Results of the review
Ten studies (across 9 publications) were included in the review (312 tendons): 2 prospective case series (36 tendons) and 8 retrospective case series (276 tendons).

The overall weighted success rate was 87.5%. Success in the treatment of the inferior pole of the patella was 70.9% (3 studies, 69 tendons). When the inferior pole was treated conditionally the success rate was 91.5% (2 studies, 104 tendons). Combined success was 91.7% (5 studies, 139 tendons) when patella bony work was not performed and 84.8% (7 studies, 208 tendons) when the paratenon was closed. Success was 82.4% (4 studies, 175 tendons) when patients were immobilised, compared with 94.9% when patients were not immobilised (4 studies, 104 tendons).

Authors’ conclusions
The evidence for the surgical debridement of abnormal tissue in the proximal patella tendon is of a low level and does not consistently assure full return to aggressive activity; substantial conclusions could not be drawn based on this evidence.

CRD commentary
The authors addressed a clear review question with inclusion criteria specified for the participants, interventions and outcomes, but not study design. A number of relevant sources were searched in order to obtain evidence, although specific attempts to locate unpublished data were not made and only English language publications were sought, thereby increasing the potential for publication and language bias. The study selection process was conducted in duplicate, but it is unclear whether similar methods were used to reduce error and bias during the data extraction. Study quality was not formally assessed although some aspects of it were discussed. Given the disparity of treatments in the included studies and the low level of evidence, inferences based on combined clinical outcomes need to be treated with caution. However, the authors took account of these limitations and their statement that substantial conclusions could not be made was appropriate.

Implications of the review for practice and research
Practice: The authors stated that practitioners should inform patients that the evidence for predicting a full return to aggressive activity is not clear.

Research: The authors stated that additional pathophysiological research is needed, and more prospective controlled studies using validated assessment tools and activity scores are required.

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Record Status
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.