Conservative, open or percutaneous repair for acute rupture of the Achilles tendon

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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary
The aim was to assess the clinical and economic performance of surgical repair and conservative management for patients with acute rupture of the Achilles tendon. The authors concluded that percutaneous surgery and conservative management were feasible alternatives to open surgery. There were a few limitations to the study design and reporting of the costs. For this reason the authors’ conclusions should be interpreted with some caution.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
The aim was to assess the clinical and economic performance of surgical repair and conservative management for patients with acute rupture of the Achilles tendon.

Interventions
Surgical repair was compared with conservative management. The surgical repair included percutaneous repair and open repair.

Location/setting
UK/tertiary care.

Methods
Analytical approach:
This economic evaluation was based on data from a retrospective case note review. The time horizon was unclear, though the authors stated it was from the date of injury to the date of discharge. The authors did not explicitly state the perspective.

Effectiveness data:
The rates of re-rupture and complications were taken from the retrospective case note review. Of 63 patients treated between 2001 and 2003, 20 were in the open repair, 31 in the percutaneous repair, and 12 in the conservative management group. The primary health outcomes were the post-operative rates of re-rupture, minor complications, and major complications.

Monetary benefit and utility valuations:
Not relevant.

Measure of benefit:
No summary benefit measure was used.

Cost data:
The cost categories appear to have included the costs of plaster changes, out-patient visits and clinical follow-up. The cost data were derived using normative data from the National Health Service (NHS). All costs were reported in UK pounds sterling (£) and the price year was not stated.

Analysis of uncertainty:
The issue of uncertainty was not addressed.
Results
The costs per patient were £1,681 for open surgery, £862 for percutaneous surgery with general anaesthesia, £558 for percutaneous surgery with local anaesthesia, and £153 for conservative management.

For open surgery, the post-operative rate of re-rupture was 5%, minor complications rate was 20%, and major complications rate was 5%. For percutaneous surgery the re-rupture rate was 0%, minor complications rate was 19.4%, and major complications rate was 3.2%. For conservation management, the re-rupture rate was 8.3%, minor complications rate was 41.7%, and major complications rate was 0%.

The number of plaster changes, median length of time in cast, and number of out-patient visits were greater in conservatively managed patients.

Authors’ conclusions
The authors concluded that percutaneous surgery and conservative management were feasible alternatives to open surgery.

CRD commentary
Interventions:
The comparators were described in detail and were appropriately selected as they represented the current practice in the authors’ setting.

Effectiveness/benefits:
The use of a retrospective case note review to derive the clinical data may have introduced some selection bias. The rationale for selecting this source was not reported, making it difficult to ascertain if the best available evidence was used. The authors acknowledged that the lack of formal randomisation was a limitation to their study.

Costs:
Little information around the costs was provided. In fact, the costs were presented as macro-categories and a breakdown of unit prices was not given, which limits the generalisability of the analysis.

Analysis and results:
No synthesis of the effectiveness and cost data was performed. Nevertheless, the study results were clearly reported. The impact of uncertainty on the study parameters was not investigated, making it difficult to assess whether the results were robust.

Concluding remarks:
There were a few limitations to the study design and reporting of the costs. For this reason the authors’ conclusions should be interpreted with some caution.

Funding
Funding received from the NHS Trust, Local Authority, the North Staffordshire Postgraduate Medical Institute, and the British Orthopaedic Foot and Ankle Society.

Bibliographic details

PubMedID
18608405

DOI
10.1080/09638280701786815
Other publications of related interest


Indexing Status
Subject indexing assigned by NLM

MeSH
Achilles Tendon /injuries /surgery; Acute Disease; Adult; Casts, Surgical; Female; Humans; Male; Middle Aged; Office Visits /statistics & numerical data; Postoperative Complications; Retrospective Studies; Rupture /economics /therapy

AccessionNumber
22009100171

Date bibliographic record published
22/04/2009

Date abstract record published
24/06/2009