Meta-analysis: Shouldice technique is superior to the Bassini or McVay methods of hernia repair


Objective
To determine the effectiveness of the Shouldice technique in inguinal hernia repair.

Data sources
Studies were identified through MEDLINE (1966 to 1994) and EMBASE (1974 to 1994), using the terms inguinal hernia and Shouldice. Published abstracts from meetings and recent journals were scanned, and authors were contacted.

Study selection
Selected studies were controlled trials (published studies or abstracts) that compared the Shouldice technique with 1 or more other hernia repair methods.

Data extraction
Data were extracted on patient characteristics, comparability of study groups, hernia type, number of patients, method of randomisation, operative technique, follow-up methods, and outcomes. The information was collected independently by 3 investigators, differences were discussed, and full agreement was reached. Each study was assigned a score (up to 9 points) based on quality criteria.

Main results
9 studies (including 2 abstracts) with 11 study arms met inclusion criteria (8 randomised and 3 nonrandomised trials). Hernia recurrence rates were lower after Shouldice repair compared with other methods in 10 of the 11 comparisons. 6 of the randomised controlled trials (comprising 2500 patients) were homogenous and considered suitable for meta-analysis (quality score > 5 points). 58 patients (4.8%) had hernia recurrences after Shouldice repair compared with 100 patients (7.7%) after the Bassini or McVay method (P = 0.003). (This weighted absolute risk reduction of 3.1% means that 32 patients would need to be treated with the Shouldice technique for hernia repair (rather than the Bassini or McVay method) to prevent 1 hernia recurrence, 95% CI 20 to 78; the relative risk reduction was 38%, CI 15% to 55%.)

Conclusion
A meta-analysis of 6 studies including 2500 patients shows that the Shouldice technique for hernia repair results in fewer recurrences than repair by either the Bassini or McVay method.

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Commentary
Inguinal hernia repair, like many operations, lacks a substantial number of randomised controlled trials to determine the effectiveness of different modifications of surgical technique. For several decades, mesh repairs, laparoscopic approaches, and other types of repair have led to many debates.

This meta-analysis by Simons and colleagues is an important contribution because the investigators have retrieved a substantive number of randomised controlled trials with a pooled sample size of 2500 patients. Most of the trials were relatively small with two thirds of all patients data analysed coming from one study (1).

It is important to note that the event rates in the controlled clinical trials differed substantially from published data from centres that advocate the original techniques. The recurrence rates of 4% to 8% in these controlled trials are much higher than the rates quoted from centres specialising in hernia surgery. The possibility of selection, measurement, or other types of bias makes it impossible to compare these uncontrolled data with outcome data from randomised controlled trials. It is likely, however, that the recurrence rates reported in the controlled trials that were carried out in general hospitals are more likely to reflect the true recurrence rates among general surgeons worldwide than those reported from specialist hernia centres. Although the methods used in this meta-analysis are excellent, it might have been helpful to report the difference in outcomes of all the identified controlled trials regardless of quality to see whether the results differed from those of the qualitative data set.

Doubtless, the specialist centres will quote their < 1% recurrence rates and ignore the more generalisable results of this meta-analysis, which reports higher recurrence rates. For the average hernia surgeon, these results suggest that Shouldice repair is better than either the Bassini or McVay methods and should become the standard of practice. The role of a laparoscopic approach to hernia repair needs to be adequately assessed in similar randomised controlled trials that use Shouldice repair as the standard against which laparoscopic hernia repair is compared.

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Reference