



Cochrane
Library

Cochrane Database of Systematic Reviews

Small-incision versus open cholecystectomy for patients with symptomatic cholecystolithiasis (Review)

Keus F, de Jong J, Gooszen HG, Laarhoven CJHM

Keus F, de Jong J, Gooszen HG, Laarhoven CJHM.
Small-incision versus open cholecystectomy for patients with symptomatic cholecystolithiasis.
Cochrane Database of Systematic Reviews 2006, Issue 4. Art. No.: CD004788.
DOI: [10.1002/14651858.CD004788.pub2](https://doi.org/10.1002/14651858.CD004788.pub2).

www.cochranelibrary.com

[Intervention Review]

Small-incision versus open cholecystectomy for patients with symptomatic cholelithiasis

Frederik Keus¹, J de Jong², Hein G Gooszen³, C JHM Laarhoven⁴

¹Surgery, Diaconessenhuis, Utrecht, Netherlands. ²Radiation Oncology, Maastricht Clinic, Maastricht, Netherlands. ³Department of Surgery G.04.228, University Medical Center, GA Utrecht, Netherlands. ⁴Surgery, St. Elisabeth Hospital, Tilburg, Netherlands

Contact: Frederik Keus, Surgery, Diaconessenhuis, Bosboomstraat 1, Utrecht, Utrecht, 3582 KE, Netherlands. erickeus@hotmail.com.

Editorial group: Cochrane Hepato-Biliary Group.

Publication status and date: Edited (no change to conclusions), published in Issue 1, 2010.

Citation: Keus F, de Jong J, Gooszen HG, Laarhoven CJHM. Small-incision versus open cholecystectomy for patients with symptomatic cholelithiasis. *Cochrane Database of Systematic Reviews* 2006, Issue 4. Art. No.: CD004788. DOI: [10.1002/14651858.CD004788.pub2](https://doi.org/10.1002/14651858.CD004788.pub2).

Copyright © 2010 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

ABSTRACT

Background

Cholecystectomy is one of the most frequently performed operations. Open cholecystectomy has been the gold standard for over 100 years. Small-incision cholecystectomy is a less frequently used alternative.

Objectives

To compare the beneficial and harmful effects of small-incision versus open cholecystectomy for patients with symptomatic cholelithiasis.

Search methods

We searched *The Cochrane Hepato-Biliary Group Controlled Trials Register* (6 April 2004), *The Cochrane Library* (Issue 1, 2004), *MEDLINE* (1966 to January 2004), *EMBASE* (1980 to January 2004), *Web of Science* (1988 to January 2004), and *CINAHL* (1982 to January 2004) for randomised trials.

Selection criteria

All published and unpublished randomised trials in patients with symptomatic cholelithiasis comparing any kind of small-incision or other kind of minimal incision cholecystectomy versus any kind of open cholecystectomy. No language limitations were applied.

Data collection and analysis

Two authors independently performed selection of trials and data extraction. The methodological quality of the generation of the allocation sequence, allocation concealment, blinding, and follow-up was evaluated to assess bias risk. Analyses were based on the intention-to-treat principle. Authors were requested additional information in case of missing data. Sensitivity and subgroup analyses were performed if appropriate.

Main results

Seven trials randomised 571 patients. Bias risk was high in the included trials. No mortality was reported. The total complication proportions are respectively 9.9% and 9.3% in the small-incision and open group, which is not significantly different (risk difference all trials, random-effects 0.00, 95% confidence interval (CI) -0.06 to 0.07). There are also no significant differences considering severe complications and bile duct injuries. However, small-incision cholecystectomy has a shorter hospital stay (weighted mean difference, random-effects -2.8 days (95% CI -4.9 to -0.6)) compared to open cholecystectomy.

Authors' conclusions

Small-incision and open cholecystectomy seem to be equivalent regarding risks of complications, but the latter method is associated with a significantly longer hospital stay. The quicker recovery of small-incision cholecystectomy compared with open cholecystectomy confirms the existing preference of this technique over open cholecystectomy.

PLAIN LANGUAGE SUMMARY**Small-incision cholecystectomy and open cholecystectomy seem equivalent considering complications, but small-incision cholecystectomy is associated with a shorter hospital stay**

The classical open cholecystectomy and the minimally invasive small-incision cholecystectomy are two alternative operations for removal of the gallbladder. There seem to be no significant differences in mortality and complications between these two techniques. Hospital stay is shorter using the small-incision operation. This review shows that the small-incision and open cholecystectomy should be considered equal, apart from a shorter hospital stay using the small-incision technique.