
Enhanced recovery programmes in hepatobiliary and pancreatic surgery: a systematic review

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CRD summary

The review concluded that introduction of an enhanced recovery programme in hepatobiliary and pancreatic surgery appeared safe and feasible. The authors' conclusions appear overstated given the level of evidence presented and limitations of study methods and may not be reliable.

Authors' objectives

To evaluate the effectiveness of enhanced recovery programmes in hepatobiliary and pancreatic surgery.

Searching

MEDLINE was searched for articles in English. Search terms were reported. References of retrieved articles were scanned.

Study selection

Studies that evaluated the effectiveness of enhanced recovery programmes in hepatobiliary and pancreatic surgery were eligible for inclusion. Studies had to include a sufficient description of the multimodal clinical enhanced recovery programme. The primary outcome of interest was length of postoperative hospital stay. Secondary outcomes included morbidity, mortality and readmission rate.

Enhanced recovery programme protocols varied between studies but all described a multimodal clinical pathway incorporating patient education, regional anaesthesia, optimal pain relief, judicious use of surgical drains, early mobilisation and early introduction of oral liquids postoperatively. More than half of the studies conducted surgery of the liver; the rest conducted surgery of the pancreas. Surgery type varied between studies. Studies were published from 2007 to 2011.

The authors did not state how many reviewers selected studies for inclusion.

Assessment of study quality

The authors did not state that they assessed study quality.

Data extraction

The authors stated neither how they extracted data nor how many reviewers undertook data extraction.

Methods of synthesis

Data were combined in a narrative synthesis.

Results of the review

Ten studies (999 participants) were included in the review. Sample sizes ranged from 12 to 255 participants; most studies had fewer than 100 participants. Six studies were prospective case series with historical controls. One study was a retrospective case series with historical controls. One study was a multicentre study that used historical controls. Two studies compared outcomes in the study cohorts.

A reduction in postoperative length of stay was a consistent finding following the incorporation of an enhanced recovery programme when compared with controls in both liver surgery (four to seven days; six studies) and pancreatic resectional surgery (10 to 13 days; four studies). There were no increased rates of readmission, morbidity or mortality in any study.

Authors' conclusions

The introduction of an enhanced recovery programme in hepatobiliary and pancreatic surgery appears safe and

feasible.

CRD commentary

The review question was clear with defined inclusion and exclusion criteria. There was a limited search and inclusion was restricted to articles in English so some studies may have been missed. Study quality was not assessed and so it was difficult to determine the reliability of the evidence. The included study designs are known to be subject to multiple biases. The authors did not report review methods so it was unclear whether these included efforts to reduce reviewer error and bias.

A narrative synthesis appeared appropriate given the diversity of the included studies. Results of the individual studies were not clearly reported (percentages were reported but it was unclear whether these related to the difference between groups). The primary outcome was postoperative length of stay and as the authors themselves stated this may not “best reflect the quality of functional recovery”. It was unclear how postoperative length of stay was defined as some studies may have included readmission rates in length of stay outcomes. Adherence rates to the protocols were unclear. Most studies included only a small number of patients and very few patient characteristics were reported.

The authors’ conclusions appear overstated given the level of evidence presented and limitations of study methods and may not be reliable.

Implications of the review for practice and research

Practice: The authors stated that many of the principles of the multimodal pathway were derived from the colorectal enhanced recovery programme and distinct differences exist that may impede implementation in hepatobiliary and pancreatic surgery. They recommended implementation of a standardised multimodal protocol in hepatobiliary and pancreatic surgery that increased awareness of goals that improved safety and clinical outcomes.

Research: The authors stated that randomised controlled trials were needed to clearly define evidence-based parameters in patients undergoing hepatobiliary and pancreatic surgery.

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