CRD summary
The authors concluded that limited evidence showed that endoscopic retrograde cholangiopancreatography (ERCP) on an outpatient basis was as safe as ERCP on an in-patient basis when performed with a selective policy. The reliability of the authors’ conclusions is unclear given several weaknesses (potential for publication bias, and risk of error and bias) in the review methods.

Authors' objectives
To determine the safety of an endoscopic retrograde cholangiopancreatography (ERCP) performed on an outpatient basis.

Searching
PubMed, The Cochrane Library, EMBASE and Web of Science were searched for studies published between January 1980 and May 2007. Search terms were reported. Two articles published in Spanish and four articles available in abstract formats only were excluded.

Study selection
Studies that enrolled patients who underwent ERCP as in-patients or outpatients and that measured patient and treatment characteristics, complications and prolonged hospital stay were eligible for inclusion. Outcome measures included complications (within two to six hours after an ERCP for outpatients and within 24 hours for inpatients), prolonged hospital stay (longer than two to six hours for outpatients and 24 hours for in-patients) and readmissions (maximum of two to six hours for outpatients and 24 hours for in-patients).

The most common indications for an ERCP for both outpatient and in-patients were common bile duct stones and malignant strictures. The most commonly performed ERCP procedure was biliary sphincterotomy. Mean age of patients who underwent an ERCP were 61 years (range 52 to 76 years) for outpatients and 68 years (range 61 to 78 years) for in-patients.

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

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

Data extraction
Data on number of complications on outpatient and in-patient basis were extracted to enable calculation of odds ratios (ORs) and 95% confidence intervals (CIs). The authors did not report how many reviewers performed data extraction.

Methods of synthesis
Pooled odds ratios and 95% CIs were calculated using the random-effects model. Consistency of study results was examined using a forest plot.

Results of the review
Eleven studies (n=5,330 patients, range 82 to 2,347 patients) were included: five were comparative (n=3,868), five were prospective (n=1,222) and one was retrospective (n=240).

Complications: There was no significant difference in the frequency of complications between in-patient and outpatient ERCPs (OR 1.54, 95% CI 0.71 to 3.35; n=3,426 patients, five comparative studies).

Seven percent (184 of 2,483) of outpatients developed a complication after ERCP: 72% (107 of 149) of complications presented within two to six hours; 10% (15 of 149) within six to 24 hours; and 18% (27 of 149) more than 24 hours.
after the ERCP.

Three percent (82/2320) of in-patients developed a complication: 95% (78 of 82) of complications presented within 24 hours; and 5% (four of 82) presented more than 24 hours after ERCP.

Hospital admission and readmission: A prolonged hospital stay after an ERCP was indicated in 6% (148 of 2,483) of designated outpatients. Three percent (74 of 2,149) of outpatients and less than 1% (four of 2,320) of in-patients were readmitted after discharge.

Cost information
In one study, the additional costs for admitting a patient for observation after an ERCP were US$805 for each 24 hours of being admitted. The estimated cost savings for 100 patients who underwent an outpatient ERCP was $676.20 per patient.

Authors’ conclusions
Limited evidence showed that an ERCP on an outpatient basis was as safe as an ERCP on an in-patient basis when performed with a selective policy.

CRD commentary
The review question was clearly stated with regard to eligible patients, interventions, comparisons and outcomes. Eligible study designs were not clearly prespecified. Three relevant databases were searched. Literature searches were limited to published studies, papers reported in abstracts were excluded and it appeared that non-English papers were excluded; hence, some relevant papers might have been missed. It was unclear whether review processes were done in duplicate and so the possibility of error and bias could not be ruled out. The risk of bias in the included studies was not assessed; hence, the quality of the included studies was unclear. Heterogeneity was not explored; hence, the rationale for the meta-analysis was unclear. The authors acknowledged the limited evidence available (few studies and a lack of randomised controlled trials).

The reliability of the authors’ conclusions is unclear given several weaknesses (potential for publication bias, risk of error and bias, and unclear quality of included studies) in the review methods.

Implications of the review for practice and research
Practice: The authors stated that patients were likely to be eligible for an ERCP if they meet the criteria: no increased risk for post-ERCP complications; relatively good health status; corrected coagulopathy; stay within 30 minutes driving distance from hospital; and are escorted by a second person. Such patients should be observed for four hours and have measurements of amylase and lipase measured four hours after ERCP. Patients who did not meet the criteria should be admitted for overnight observation post-ERCP.

Research: The authors stated that a randomised controlled trial of sufficient size was required to determine the differences between an outpatient and in-patient ERCP with regard to patient and treatment characteristics, complications, patient preferences and costs.

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Not stated.

Bibliographic details

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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.