Authors' objectives
Background: Ultrasonography is regarded as the tool of choice for early diagnostic investigations in patients with suspected blunt abdominal trauma. Although its sensitivity is too low for definite exclusion of abdominal organ injury, proponents of ultrasound argue that ultrasound-based clinical pathways enhance the speed of primary trauma assessment, reduce the number of computed tomography scans and cut costs. Objectives: To assess the effects of trauma algorithms that include ultrasound examinations in patients with suspected blunt abdominal trauma. 

Search methods: We searched the Cochrane Injuries Group's Specialised Register, CENTRAL (The Cochrane Library), MEDLINE (OvidSP), EMBASE (OvidSP), CINAHL (EBSCO), publishers' databases, controlled trials registers and the Internet. Bibliographies of identified articles and conference abstracts were searched for further eligible studies. Trial authors were contacted for further information and individual patient data. The searches were updated in February 2013.

Selection criteria: Studies: randomised controlled trials (RCTs) and quasi-randomised trials (qRCTs). Participants: patients with blunt torso, abdominal or multiple trauma undergoing diagnostic investigations for abdominal organ injury. Interventions: diagnostic algorithms comprising emergency ultrasonography (US). Controls: diagnostic algorithms without ultrasound examinations (for example, primary computed tomography [CT] or diagnostic peritoneal lavage [DPL]). Outcome measures: mortality, use of CT and DPL, cost-effectiveness, laparotomy and negative laparotomy rates, delayed diagnoses, and quality of life. 

Data collection and analysis: Two authors independently selected trials for inclusion, assessed methodological quality and extracted data. Where possible, data were pooled and relative risks (RRs), risk differences (RDs) and weighted mean differences, each with 95% confidence intervals (CIs), were calculated by fixed- or random-effects modelling, as appropriate. 

Main results: We identified four studies meeting our inclusion criteria. Overall, trials were of moderate methodological quality. Few trial authors responded to our written inquiries seeking to resolve controversial issues and to obtain individual patient data. We pooled mortality data from three trials involving 1254 patients; relative risk in favour of the US arm was 1.00 (95% CI 0.50 to 2.00). US-based pathways significantly reduced the number of CT scans (random-effects RD -0.52, 95% CI -0.83 to -0.21), but the meaning of this result is unclear. Given the low sensitivity of ultrasound, the reduction in CT scans may either translate to a number needed to treat or number needed to harm of two. 


Bibliographic details

AccessionNumber
10000004446

Date abstract record published
13/07/2012

Record Status
This is an abstract for a Cochrane review