

- Title** Whole body computed tomography (WBCT) in adult with major blunt trauma injuries
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Aim

In Malaysia, WBCT is not widely practice as routine imaging procedure due to lack of clear guidelines. Hence, to ascertain the benefit of using WBCT as part of assessment in benefiting blunt polytrauma patients.

Conclusions and results

A total of 443 records were identified whereby 25 articles which consist of systematic reviews and meta-analysis, randomised controlled trial (RCT), cohort, cross-sectional, diagnostic, non-RCT, and cost-utility analysis were included.

WBCT compared to conventional/selective CTs scanning early in the management of major blunt trauma injuries reduced overall mortality rate (odds ratio [OR] 0.21 to 0.75) and increases the chance of survival among patients in moderate shock (OR 0.73) and severe shock (OR 0.67). It was highly specific in detecting injuries to different body regions (97.5-99.8%) but sensitivity varies (79.6-86.7%). Although patients underwent WBCT were exposed to higher radiation dose (>20 mSv), the position of both arms not only reduced the radiation but produced highest imaging quality.

WBCT was superior to conventional CT scan in reducing/shortening time spent in ED, from admission to injury diagnosis and operating room, length of hospital stay but no different in the ICU stay.

WBCT was found to be a cost-effective strategy in United States.

Recommendations

WBCT is useful as part of assessment for adult with major blunt trauma injuries. However, proper selection criteria of patients that will benefit the most and discussion with patient or caregiver before undergoing the procedure are advocated.

Methods

Electronic databases were searched through the Ovid interface: Ovid MEDLINE® In-process and other Non-indexed citations and Ovid MEDLINE® 1946 to present, EBM Reviews - Cochrane Central Register of Controlled Trials - Dec 2017, EBM Reviews - Cochrane Database of Systematic Reviews - 2005 to Jan 31 2018, EBM Reviews - Health Technology

Assessment – 4th Quarter 2016, EBM Reviews - Database of Abstracts of Reviews of Effects – 1st Quarter

2016, EBM Reviews – NHS Economic Evaluation Database 1st Quarter 2016. Searches were also run in PubMed. Google was used to search for additional web-based materials and information. No limits were applied. Additional articles were identified from reviewing the references of retrieved articles. Last search was conducted on 31st January 2018.

Further research/reviews required

Findings from this review may be used as technical input in decision/policy making, particularly in developing a guideline related to management of trauma care using WBCT as routine imaging procedure.

Written by

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