TITLE: Thoracentesis For Adult Patients: Guidelines

DATE: 31 January 2011

RESEARCH QUESTION

What are the evidence-based guidelines and best practice information for the delivery of thoracentesis in adults?

KEY MESSAGE

The literature search identified one systematic review with meta-analysis that provided information on the pneumothorax rate following thoracentesis and on the risk factors for pneumothorax. Results suggested that iatrogenic pneumothorax may be a relatively common complication of thoracentesis and that some modifiable factors could reduce the pneumothorax rate.

METHODS

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 12, 2010), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI (Health Devices Gold), EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between January 1, 2006 and January 17, 2011. Filters were applied to limit the retrieval to health technology assessments, systematic reviews, meta-analyses and guidelines. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.
RESULTS

Rapid response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by evidence-based guidelines.

One systematic review with meta-analysis was identified that provided information on safety of thoracentesis. Other articles of potential interest are included in the appendix.

OVERALL SUMMARY OF FINDINGS

One systematic review with meta-analysis evaluated the mean pneumothorax rate following thoracentesis and the risk factors for pneumothorax. Twenty-four studies were included in the systematic review and reported pneumothorax rates following 6,605 thoracenteses. The pooled pneumothorax rate across studies was 6.0% (95% confidence interval: 4.6% to 7.8%). Results suggest that iatrogenic pneumothorax may be a relatively common complication of thoracentesis. Real-time ultrasonography use was identified as a modifiable factor that reduces the pneumothorax rate. Performance of thoracentesis for therapeutic purposes was associated with a higher likelihood of pneumothorax. Experienced operators may have lower pneumothorax rates. The authors of the review concluded that patient safety may be improved by changes in clinical practice in accordance with these findings.
REFERENCES SUMMARIZED

Health technology assessments
No literature identified.

Systematic reviews and meta-analyses


Guidelines and recommendations
No literature identified.

PREPARED BY:
Canadian Agency for Drugs and Technologies in Health
Tel: 1-866-898-8439
www.cadth.ca
APPENDIX – FURTHER INFORMATION:

Non-randomized Studies


Other guidelines and recommendations


Review articles


   Note: please see p.797