

EVOLUTION OF PRACTICE IN MANAGEMENT OF PARAPNEUMONIC EFFUSION AND EMPYEMA IN CHILDREN

Matthew Boal, David Griffith, Timothy Rogers

Bristol Royal Hospital for Sick Children, University Hospitals Bristol, Bristol, UK

Aim: To assess the evolution in management of children with parapneumonic effusion and empyema in a tertiary referral centre.

Method: Retrospective case note review of children admitted between December 2006-December 2015. Digital database searches identified paediatric patients with para-pneumonic effusion, pleural effusion and empyema. Demographic data, referring hospital, radiological and microbiological investigations, length of stay and morbidity, were analysed.

Results: 115 patients had 159 interventions. 64% presented to other hospitals before transfer. 54 children were successfully treated with intercostal drainage (ICD) and urokinase fibrinolysis. There were 19 primary video assisted thoroscopic surgeries (VATS), 8 VATS after initial chest drains, 2 VATS immediately converted to thoracotomy and 2 VATS after ICD subsequently needing thoracotomy. 33 children required a thoracotomy, a reduction of 26% from the previous era. 82.6% patients underwent pre-intervention ultrasound. 2 patients had CT scans in peripheral hospitals. 18 (16%) patients had neither ultrasound nor CT scan pre-intervention. Reporting of ultrasound findings used specific criteria to categorize the findings into 3 groups. Patients undergoing thoracotomy were all in group 3. Patients undergoing VATS were in group 2 and 3, whereas ICD were spread across the 3 groups. Out of 32 children who had step-up interventions 13 were in group 3, 10 in group 2, only 4 in group 1 and 5 patients had no imaging. 2 patients undergoing primary thoracotomy had co-morbid disease (asthma/chronic lung disease). Two patients who required thoracotomy after initial ICD had co-morbid disease, 1 chronic renal/ lung disease and the other had previously had a liver transplantation, developing AKI and DVT respectively.

Conclusion: Most patients can be successfully treated with intrapleural fibrinolytics. Ultrasound may be useful in planning management or possibly predicting need for step-up intervention. In our hospital, there has been an increase in the use of fibrinolysis and VATS and a corresponding decrease in the need for thoracotomy.