Empyema and Parapneumonic effusions in children admitted to a teaching hospital in Ghana. -A retrospective review

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Background

Parapneumonic effusions (PPE) and Empyema are serious complications of pneumonia in children that are associated with higher morbidity and prolonged hospital stay. The introduction of the pneumococcal conjugate vaccines (PCV 13) have led to a reported decline in the episodes of complicated pneumonia in children. The organisms commonly associated with PPE and Empyema are Streptococcus pneumoniae and Staphylococcus aureus though Mycobacterium tuberculosis has also been reported. There is paucity of data on children with PPE and Empyema in Ghana. We aimed to describe the profile, mode of presentation and outcomes in children admitted with PPE and Empyema to the Komfo Anokye Teaching Hospital.

Methods

A retrospective review of medical records (folders) and electronic data on children with PPE and Empyema admitted to the pulmonology unit from January 2018 to December 2020 were retrieved. Demographic records, immunization status, clinical presentation, length of hospital stay and outcome of admission were extracted using a Microsoft Excel. Data was then analysed with STATA version 16.

Results

Records were available for 51 children; the median age was 42 months IQR (22.5-96) and 68.6% (n=35) were males. In all 84.2% (n=38), had received all immunisations up to date for age. At presentation, 9.5% (n=4/42) had oxygen saturation <90%, whilst 43.9% (n=18/41) had axillary temperature > 38°C. The median respiratory rate was 47.5 IQR (32.8-57). The Median white cell count was 15.84 X10⁹/l IQR (11.9-24.73) and median hemoglobin was 9.6 g/dl IQR (8.6-11.7). Pleural aspirate culture isolated Staphylococcus aureus for 6 patients. The rest were either not available or had no bacterial growth. Amoxicillin clavulanic acid and ceftriaxone were the most commonly used antibiotics. The median length of hospital stay was 9 days IQR (7-12) while the median length of chest tube insertion was 7 days IQR (5.5-9). In all 7.8 (n=4/51) patients died.

Conclusion

Both young and older children are affected with PPE/empyema. There is a good uptake of vaccines among children admitted for PPE/empyema, Staphylococcus aureus is the most common bacterial isolated from pleural aspirate culture. Most children admitted with complicated PPE/Empyema survived.