Necrotising Pneumonia in a Toddler

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An 18month old toddler presented to her local hospital with concerns of more than a week’s history of cough, fever, respiratory distress and reduced appetite. They needed respiratory support on admission. There were ongoing concerns from her local team about her increasing respiratory support, raised inflammatory markers, deteriorating clinical condition and concerning findings on imaging. They were transferred to regional specialist for Paediatric respiratory opinion and possible insertion of chest drain for pleural effusion.

Background

Necrotizing pneumonia (NP) is an uncommon, but severe complication of pneumonia. It is characterized by progressive pneumonic illness in a previously healthy child despite appropriate antibiotic therapy, and runs a protracted clinical course with associated high morbidity and mortality. The diagnosis is made by chest imaging studies showing one or more small thin-walled cavities within areas of pulmonary consolidation.

The main stay of treatment is supportive with appropriate antibiotics, however if the patient fails to improve, surgery may be a lifesaving option. Nevertheless, despite its severity, mortality in children is uncommon. The children improve clinically within a couple of months, radiographic changes are largely resolved after 5–6 months, and only a minority are left with mildly impaired lung function.

In our case blood culture was positive for Streptococcus pneumonia. They were treated with at-least 3 weeks of intravenous antibiotics followed by a further few weeks of oral antibiotics.

Treatment Dilemma’s

1) There are no firm guidelines, as when to proceed from medical to surgical treatment.

2) While it is recommended that surgical intervention is kept to a minimum to avoid risking Broncho-Pulmonary Fistula, that is not possible if a large tension pneumothorax develops, causing hemodynamic instability and further compromise of ventilation.

3) Appropriate management of these cases is unclear. Our current knowledge is limited to case reports and small observational studies.