An 8 month old male presented to his pediatrician with a fever and was diagnosed with an acute otitis media, which was treated with amoxicillin. The patient initially improved, but worsened with recurrent fever, decreased oral intake, and irritability. The patient was seen by an outside hospital, where a chest x-ray was performed to rule out pneumonia for his fever. The x-ray was normal and the patient was sent home. Nearly one week after his initial pediatricians visit, he was seen in our ED for poor PO intake and an unresolved fever, where a computed tomography scan demonstrated retropharyngeal pheumonia.

The patient initially had a WBC of 19,000 and was placed on vancomycin and colistin. On hospital day #3, the patient was clinically improving with better oral intake; however the WBC increased to 30,000, and a repeat computed tomography showed retropharyngeal abscess with mediastinitis. The patient underwent an incision and drainage of the neck abscess and VATS with mediastinal dissection, which revealed a large amount of purulent debris. The patient improved clinically and the WBC decreased. The culture grew out methicillin-sensitive Staphylococcus aureus (all were clindamycin sensitive). The patient’s peak white blood cell counts were 19.8, 18.4, 15.0, and 4.89 thousand. All patients survived and were discharged on long-term antibiotics.

Conclusions: Despite appropriate initial empiric antibiotic therapy, all four patients developed retropharyngeal abscesses with mediastinal extension. The otolaryngologist should maintain vigilance when treating infants with intravenous antibiotics for a deep neck space infection. Initial use of imaging studies should be performed to monitor progression of the infection, a significantly elevated white blood cell count should be interpreted with caution, and initial empiric therapy should include clindamycin. Despite the adult literature that quotes a 50% mortality rate from mediastinitis, infant mediastinitis may be a different disease process as all of our patients survived.

Case Reports

Case 1: An 8 month old male presented to his pediatrician with a fever and was diagnosed with an acute otitis media, which was treated with amoxicillin. The patient initially improved, but worsened with recurrent fever, decreased oral intake, and irritability. The patient was seen by an outside hospital, where a chest x-ray was performed to rule out pneumonia for his fever. The x-ray was normal and the patient was sent home. Nearly one week after his initial pediatricians visit, he was seen in our ED for poor PO intake and an unresolved fever, where a computed tomography scan demonstrated retropharyngeal pheumonia.

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Case 2: A 9 month old presented to our ENT with 3 days of fever and neck swelling. A computed tomography scan on admission showed a retropharyngeal phlegmon. The patient was admitted for observation and intravenous clindamycin and colistin. On hospital day #3, the patients left neck swelling increased and the WBC went from 13,000 to 18,000. A computed tomography scan demonstrated mediastinitis without an abscess collection and a periarterial fluid collection. The patient underwent an external drainage of the neck abscess. The cultures were MRSA positive. The patient was discharged with a 6 week course of intravenous clindamycin and colistin.

Case 3: A 9 month old presented to our ER with 3 days of fever and left neck swelling. A computed tomography scan on admission showed a retropharyngeal phlegmon. The patient was admitted for observation and intravenous clindamycin and colistin. On hospital day #3, the patients left neck swelling increased and the WBC went from 13,000 to 18,000. A computed tomography scan demonstrated mediastinitis without an abscess collection and a periarterial fluid collection. The patient underwent an external drainage of the neck abscess. The cultures were MRSA positive. The patient was discharged with a 6 week course of intravenous clindamycin and colistin.

Case 4: A 8 month old female with a history of fever and neck swelling for one week was admitted to an outside hospital with right neck lymphadenopathy. She was started on ceftriaxone and clindamycin. She later developed tachypnea and hypoxia, a computed tomography scan showed a right parapharyngeal abscess with mediastinal extensions and internal jugular vein thrombosis. The patient was transferred to our hospital’s PICU. A repeat computed tomography showed a right neck abscess and a right phlegmon. A repeat WBC was 15,000. She underwent an incision and drainage of the neck abscess as well as a right chest tube insertion. Cultures were penicillin resistant Staphylococcus. On POD #3, the patient had a fever to 38.5 C and Callouts and developed a new right upper lobe collection on chest x-ray. A repeat computed tomography revealed an upper mediastinal abscess collection and right neck fluid collection. The patient went back to the operating room for an incision and drainage of the neck (recreating hemostasis) and VATS with mediastinal drainage of the abscess. Patient was initially on vancomycin, clindamycin, and ceftriaxone. Cultures grew out MSSA and the patient was switched to an prolonged course of cefazolin.

Discussion

Despite appropriate initial empiric antibiotic therapy, all four patients developed retropharyngeal abscesses with mediastinal extension.

The otolaryngologist should maintain vigilance when treating infants with intravenous antibiotics for a deep neck space infection. Initial use of imaging studies should be performed to monitor progression of the infection.

A significantly elevated white blood cell count should be interpreted with caution, and initial empiric therapy should include clindamycin.

Despite the adult literature that quotes a 50% mortality rate from mediastinitis, infant mediastinitis may be a different disease process as all of our patients survived. Further, the role of thoracic surgery must be interpreted on a case by case basis as some patients survived. Further, the role of thoracic surgery must be performed to monitor progression of the infection.

A significantly elevated white blood cell count should be interpreted with caution, and initial empiric therapy should include clindamycin.

Despite the adult literature that quotes a 50% mortality rate from mediastinitis, infant mediastinitis may be a different disease process as all of our patients survived. Further, the role of thoracic surgery must be performed to monitor progression of the infection.