

Primary Pneumococcal peritonitis in a 12-year-old adolescent

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Introduction

Streptococcus pneumoniae infections are usually associated with a high morbidity and mortality burden. Pneumococcus is frequently the cause of pneumonia, or purulent meningitis. Spontaneous pneumococcal peritonitis remains rarely described.

The purpose was to describe the clinical features of a pneumococcal primary peritonitis and the microbiological findings leading to this diagnosis.

Case report

Age: 12 years old

Medical history: corticosteroid-dependent nephrotic syndrome

Clinical symptoms: Acute onset of abdominal pain+ vomiting+ fever

Examination: Fever 39°C

-Pulse rate: 89 bpm

-Blood pressure :123/61 mmHg

-Abdominal exam: Distension, diffuse pain and tenderness.

Presumed diagnosis: Primary peritonitis.

Empiric treatment: Cefotaxime, gentamicin and metronidazole.

Laboratory work-up:

-High inflammatory markers

-Blood cultures: Within the first 24 hours, BACT/ALERT system detected significant bacterial growth. After 3 days of incubation, subcultures on blood agar yielded α -hemolytic optochin susceptible colonies (Figure 1).



Figure: *S. pneumoniae* colonies on blood agar

VITEK® 2 (bioMérieux, France) confirmed *Streptococcus pneumoniae* with reduced

susceptibility to penicillin. The susceptibility pattern of this isolate was detailed in the following table.

Table: Susceptibility pattern of the *S. pneumoniae* isolate

Molecule	Susceptibility
Penicillin G	Resistant
Amoxicillin	Sensitive
Cefotaxime	Sensitive
Ceftriaxone	Sensitive
Gentamicin	Low-level resistance
Levofloxacin	Intermediate
Moxifloxacin	Sensitive
Erythromycin	Resistant
Clindamycin	Resistant
Vancomycin	Sensitive
Teicoplanin	Sensitive
Cotrimoxazole	Sensitive

Treatment: Cefotaxime 50 mg/Kg/8 hours

Outcome: the patient's condition improved and the fever subsided.

Discussion

Children with nephrotic syndrome are susceptible to invasive bacterial infections (1). Spontaneous *S. pneumoniae* peritonitis's pathogenesis is still fully unknown. It is often presumed to be an hematogenous spread (2).

Conclusion

Primary bacterial peritonitis remain rare in adolescents. Surgeons are required to be aware of such an entity. Pneumococcal vaccines should be considered to prevent such infections in patients with a history of nephrotic syndrome.