

CASE REPORT

***Streptococcus pneumoniae* sepsis in a pleural effusion smear with concomitant Waldenstrom's macroglobulinemia**

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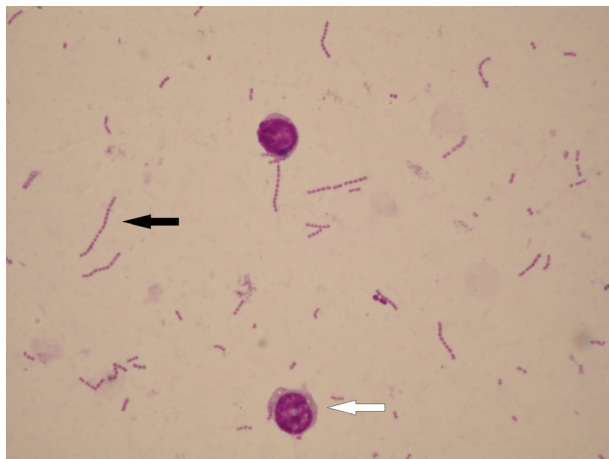
Key Clinical Message

Usually identification of the causative bacteria for an episode of sepsis is achieved using microbiological culture of blood or body fluid. In the case of pleural effusion and fever, a microscopic examination of the pleural effusion smear to identify the bacteria responsible should be performed immediately to optimize the selection of antibiotic therapy regimen.

Keywords

Non-Hodgkin lymphoma, pleural effusion, sepsis, *Streptococcus pneumoniae*, Waldenstrom's macroglobulinemia.

Case Report



An 80-year-old male patient was presented to the emergency room because of fever and respiratory distress. There was a history of Waldenstrom's macroglobulinemia, but the patient was not receiving any therapy for the condition. The vital signs were heart rate of 120 beats per

minute, blood pressure of 49/90 mmHg, and rectal temperature 39°C. The x-ray showed a large pleura effusion on the right side. A thoracentesis revealed fluid containing a couple of lymphocytes (white arrow) and a large number of cocci (black arrow), which are typical for *Streptococcus pneumoniae*. After examining blood and pleural effusion cultures, broad-spectrum antibiotic therapy with piperacillin and tazobactam was initiated [1]. A fluorescence-activated cell sorting (FACS) analysis of the pleural effusion was also performed. Only a few hours after admission to hospital the patient died of multisystem organ failure.

The blood and pleural effusion fluid grew *S. pneumoniae* 1 day later. The chosen antibiotic regimen was sensitive to *S. pneumoniae*. The FACS analysis confirmed the involvement of the pleura due to a variant of non-Hodgkin lymphoma suitable that is Waldenstrom's macroglobulinemia.

Reference

1. Angus, D. C., and T. van der Poll. 2013. Severe sepsis and septic shock. *N. Engl. J. Med.* 369:840–851.