CASE REPORT
NEISSERIA CINerea INDUCED OSTEOMYELITIS

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INTRODUCTION

It is the case of a ten-year-old girl whom presented for the first time to Saydet Zgharta-University Medical Center in Lebanon for fever and persistent left knee knife-like pain, night sweats, weight loss and mild non-specific abdominal discomfort since two weeks; she has no respiratory, neurologic or other gastrointestinal symptoms; she has been treated by unknown oral antibiotic since one week; she has no previous medical history and she has got her routine vaccinations on time according to the Lebanese national vaccination program.

Physical examination revealed a well conscious but lethargic, febrile child with polypnea and tachycardia and a maintained blood pressure (body temperature = 39°C, pulse rate = 110, respiratory rate = 22, and blood pressure = 110/60 mmHg). She had mild edema over her left knee and difficulty moving it because of pain. She had normal coloration of the skin and conjunctiva without any neck stiffness or palpable lymph nodes. Cardiopulmonary auscultation was unremarkable as well as her complete neurologic exam. Abdominopelvic examination was normal except for mild right upper quadrant tenderness. An admission diagnosis of septic arthritis was retained and laboratory and radiologic tests were requested accordingly.

Laboratory tests revealed moderate leucopenia (WBC = 3.7 G/liter; 44% neutrophils and 50% lymphocytes) and high CRP level at 33 mg/dl. The rest of the complete blood count (CBC) features were within normal range as well as urine analysis, Wright and Widal tests, cytomegalovirus (CMV) and Epstein-Barr virus (EBV) serology, Hepatitis A and B serology, human immunodeficiency virus (HIV) ELISA test and antinuclear antibodies (ANA) serologic profile. Moreover, Clostridium Difficile (C.difficile) toxin B was detected in the stool. The synovial aspirate culture from the left knee was negative but the blood and the bone marrow aspirate specimens yielded a pure growth of Neisseria Cinerea. Left knee magnetic resonance imaging (MRI) revealed a diffuse bone marrow disease compatible with an infectious osteomyelitis. The patient has been well treated with intravenous (i.v.) ceftriaxone for twenty one days at hospital than by oral antibiotic for additional two months at home.

Upon discharge from hospital, she was afebrile with a clear cut improvements in her clinical and biologic inflammatory signs and symptoms. This report is designed to show that Neisseria cinerea is not only a commensal bacteria but is emerging again as a potential source of invasive spontaneous disease. Accurate differentiation of Neisseria spp. is mandatory due to serious medical, legal, and public health consequences.

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DISCUSSION

Patients with a history of bone infection should be treated with broad-spectrum antibiotics and documented. The patient was put first on empirical antibiotic treatment with i.v. ceftriaxone (2grs/day). Oral ceftriaxone (2grs/day) was added for ten days to treat the associated C. difficile colitis.

The fever has disappeared at day 16 following the initiation of ceftriaxone and patient was discharged home on oral amoxicillin/clavulanate (2000grs/day) for additional three months. On her discharge day, the patient was quietly asymptomatic, without fever or knee pain, with a nearly normal CBC (WBC = 8.8 G/liter; 61% neutrophils and 34% lymphocytes) and lower CRP level at 8mg/dl. A follow up visit and MRI has been scheduled at the end of the antibiotic course.

CONCLUSIONS

Despite being rarely pathogenic, N. cinerea has received considerable attention in recent years because of many emerging invasive infections and its misidentification as N. gonorrhoeae with traditional laboratory techniques. Therefore rapid diagnosis, close surveillance and accurate differentiation using MALDI-TOF MS technique for all Neisseria spp. infections, is becoming mandatory due to serious medical, legal, and public health consequences such as future vaccine development.

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