

Meningococcal meningitis without rash

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ABSTRACT

Meningococcal meningitis is a major health problem in the developing world. The clinical features may vary from transient fever and bacteraemia to fulminant disease with death ensuing within hours of the onset of clinical symptoms. The classical and clinical manifestations of meningococcal disease have been well described, but atypical presentations if unrecognised, may lead to a delay in treatment and fatal outcome. Here, we report a case of atypical presentation of meningococcal meningitis without classical rash, which was diagnosed and managed successfully.

Key words: Atypical presentation, bacteraemia, meningococcal meningitis

CASE REPORT

An 18-year-old B.Tech student presented with a history of fever and headache for 3 days. He had no other underlying diseases and had been healthy previously. He had taken medication for the same from a medical store, and there was no relief. Next day, he developed altered sensorium, neck pain and weakness of lower limbs. Initially, he went to a primary health centre and later he was admitted in the Medical Intensive Care Unit, super speciality block of Government Medical College, Trivandrum.

On examination, the patient was febrile, neck stiffness was present, Kernig's sign and Brudzinski's sign were positive. The patient was hemodynamically stable, and sensorium was altered.

Cerebrospinal fluid (CSF) and blood were sent for investigations and Injection Ceftriaxone 2g IV 12th hourly was started.

Investigation results Hb –15 g/dL, Total leucocyte count –15800 cells/mm³ with polymorphs –88%, lymphocytes –7% and eosinophils-5%. CSF glucose –10g/dL and protein –57g/dL, computed tomography scan of brain was within normal limits.

CSF was turbid, and gram stain showed plenty of pus

cells and Gram-negative diplococci both extracellularly and intracellularly. Latex agglutination test was positive for *Neisseria meningitidis* group C/W135. CSF was inoculated on blood agar, chocolate agar, MacConkey Agar and glucose broth.

After 24 h, blood agar plate showed moderate growth of small 1-2 mm grey translucent circular convex colonies with a smooth glistening surface and entire edges with beta haemolysis. Similar colonies were seen on chocolate agar. Culture smear showed Gram-negative diplococci which were catalase and oxidase positive. With serum sugars, glucose and maltose were fermented without gas production. Lactose, sucrose and mannitol were not fermented.

The typing of the isolate with group A-D was positive for group C.

Direct antibiotic sensitivity test showed the strain was sensitive to Penicillin, Ciprofloxacin, Chloramphenicol, Azithromycin, Ceftriaxone, Meropenem and Rifampicin and was resistant to Cotrimoxazole.

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The patient did not develop any complications during hospitalisation and was discharged after 10 days of injection Ceftriaxone. His muscle weakness was also improved tremendously.

Chemoprophylaxis was given to all household contacts and healthcare workers who had contact with the patient. Tablet Ciprofloxacin 500 mg single dose was given. One healthcare worker who was pregnant took injection Ceftriaxone 250 mg IM. No others developed the disease.

DISCUSSION

Twelve serogroups of *N. meningitides* have been identified, six of which (A, B, C, W135, X and Y) can cause epidemics. Geographic distribution and epidemic potential differ according to serogroup. The bacteria are transmitted from person to person through droplets of respiratory or throat secretions from patients or carriers. Close and prolonged contact such as kissing, sneezing or coughing on someone, or living in close quarters (such as a dormitory, sharing eating or drinking utensils) with an infected person (a carrier) facilitates

the spread of the disease. In our case, the patient travels around 4 h a day.

The average incubation period is 4 days but can range between 2 and 10 days. The disease can affect all age groups.

Even when the disease is diagnosed early and adequate treatment is started, 5-10% of patients die, typically within 24-48 h after the onset of symptoms. Bacterial meningitis may result in brain damage, hearing loss or a learning disability in 10-20% of survivors. A less common but even more severe (often fatal) form of meningococcal disease is meningococcal septicaemia, which is characterised by a haemorrhagic rash and rapid circulatory collapse. Appropriate antibiotic treatment must be started as soon as possible.

Several vaccines are available to control the disease.

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Conflicts of interest

There are no conflicts of interest.