

# CASE REPORTS

## AN UNUSUAL CASE OF AN UNUSUAL BUG

Many doctors dislike patients presenting with psychiatric symptoms. This may lead to less careful examination and less precise laboratory testing. When routine examinations and tests are declared normal, the patients are medically cleared, and many diseases are missed. The patient is rapidly referred to a psychiatrist who may inappropriately treat for a non-existent psychiatric disorder. To avoid diagnostic disasters, it is essential to remember that psychiatric and behavioural symptoms are nonspecific. Other causes must be excluded before any psychiatric treatment begins.

Certain central nervous system infections are known to present with psychiatric symptoms – neurosyphilis, tuberculous meningitis (TBM) and viral encephalitis being among the more likely. Besides being an uncommon cause of meningitis in an immunocompetent adult, a MEDLINE search did not reveal any cases of *Haemophilus influenzae* meningitis associated with psychotic symptoms. We report a case of *H. influenzae* meningitis presenting as psychosis.

### Case report

A 32-year-old woman presented to her GP with a 3-day history of confusion, vomiting and headache. There was no history of substance abuse, previous abnormal behaviour, or family history of mental illness. She was admitted to hospital where full blood count, urea and electrolytes, liver functions and random blood glucose were done. A lumbar puncture (LP) and computerized tomography (CT) scan of the brain were performed. The blood results and CT scan were normal. The cerebrospinal fluid (CSF) was regarded as unremarkable apart from the presence of blood which was interpreted as a bloody tap. However, it revealed a white cell count of 144, lymphocytes 136, increased globulin and low glucose levels.

Three days later the patient presented to a psychiatrist with confusion. When examined, she was found to be aggressive, experiencing visual hallucinations, and was largely incoherent. In view of normal results, she was diagnosed as having a brief psychotic episode and was started on risperidone. Five days later her relatives reported a change. She was lethargic, non-communicative and refusing to eat. The psychiatrist recommended hospitalisation, suspecting an underlying medical condition and was admitted to the psychiatric wards with a temperature of 37.8°C and a Glasgow Coma Scale of 9/15. Physical examination revealed no focal neurological signs or meningism. All

systems appeared normal. Blood investigations and CT scan were repeated and an LP was performed. This time the blood results revealed a mildly raised white cell count and a raised urea, suggestive of dehydration. The rapid plasma reagin and rapid HIV tests were both negative. The LP was grossly abnormal, and had a positive latex agglutination (and later culture) for *H. influenzae*. Again, no organisms were seen on light microscopy. Despite starting antimicrobial therapy, she died that evening.

*H. influenzae* is a Gram-negative coccobacillus. Humans are the only known host. Although several risk factors for *H. influenzae* meningitis relate to the host's immunity, the most significant is age. The majority of cases occur in the 1 month - 5-year range with an estimated incidence of 100 cases per 100 000, as opposed to approximately 0.5 cases per 100 000 in the 10 - 59-year age group.

The usual method of diagnosing *H. influenzae* meningitis is through clinical signs and symptoms such as neck stiffness (which our patient did not have), fever, headache, vomiting, disturbed level of consciousness, focal neurological signs and seizures. The diagnosis is then confirmed by laboratory analysis of the CSF. In this case, the initial CSF results raised the suspicion of TBM. However, the picture was also compatible with partially treated bacterial meningitis. Febrile patients are often treated with antibiotics. In such a case, the CSF leukocyte count may become low and partly lymphocytic. The low glucose concentration characteristically persists for some days after the cell count has diminished, closely resembling a picture of TBM. No confirmatory history of antibiotic administration was obtained in our case. Many studies have been done to determine the effect of antibiotic treatment on the results of CSF Gram stain and culture; in general, the likelihood of a positive test is reduced by between 25 and 33%. Some of this shortfall may be restored by the use of antigen detection tests, such as the latex agglutination tests. The latex agglutination tests are capable of detecting less than 1-2 ng/ml of the capsular antigen of *H. influenzae*. In this case, the presence of visual hallucinations, disorientation and incoherent speech should have alerted doctors to the possibility of an organic rather than a psychiatric cause of the symptoms. Visual hallucinations are unusual in a primary psychiatric illness, but are frequently found in delirium.

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