Headache, confusion, and fever resulted in his hospital visit

By Gul Madison

A 12-year-old man arrived at the hospital with a sudden headache, fever, and confusion. His symptoms developed rapidly over several hours, and his social worker, who was at his bedside, informed the medical team that the patient had recently checked in to an in-patient drug rehabilitation facility. His care team at the rehab center noticed his symptoms and sent him to the hospital.

While he was being examined, he appeared acutely ill with high fever, rapid heart rate, and an increased respiratory rate. Although he had reported confusion before coming to the hospital, he was alert and ominous, and he was obtunded at one point. He had a slow heart rate, and his blood pressure was low. Additionally, a clear nasal discharge had appeared, and he had some tenderness as well as a faint rash on his forehead. The rest of his exam was normal. His initial blood work revealed an elevated white blood cell count, and his HIV and urine drug screening tests were negative.

Given his headache, fever, and confusion, we were concerned that he may possibly have meningitis, a condition that causes the tissue covering the brain and spinal cord to become inflamed. The inflammation is often caused by a bacterial or viral infection.

With the patient’s consent, a lumbar puncture, or spinal tap, was done to analyze the cerebrospinal fluid—a way of identifying conditions that affect the central nervous system. The patient’s spinal tap showed elevated white blood cells, which is consistent with possible meningitis. Further testing of the cerebrospinal fluid, the clear fluid that cushions and delivers nutrients to the central nervous system, was sent to the lab. He was placed on broad-spectrum antibiotics and admitted to the hospital with isolation precautions for his potential infectious condition.

The next day, he appeared to be improving. He told the medical team that after meeting a friend at his rehab center, he had developed a clear nasal discharge. He went to see his primary-care doctor, who was concerned he may have had a sinus infection, and the doctor prescribed him an antibiotic. He filled his prescription the same day and took one antibiotic pill in the afternoon, but he became ill that night and came to the hospital.

After the patient’s marked improvement, we reviewed the final cerebrospinal fluid analysis results. The results were negative for an infection, and the bacterial culture was negative. Testing for common viral infections, as well as testing for Lyme disease and syphilis, were negative.

He was completely well after 24 hours in hospital admission with no further headaches or fever, and his mental clarity returned to normal. Why did the patient get so sick, and what was the reason for his meningitis?

Search started with new use of an antibiotic

A few hours before that, the patient’s headache, fever, and confusion had developed within a few hours of taking the antibiotic for suspected sinusitis, we believed he was most likely experiencing drug-induced meningitis. Acute meningitis is a rare, non-infectious illness caused by medications, including antibiotics. The condition mimics the signs and symptoms of infectious meningitis. It is considered a hypersensitivity reaction to drugs in which patients show classic signs and symptoms of meningitis.

The time of the illness in association with taking the antibiotics and the quick resolution of symptoms, as well as negative test results for infectious meningitis, helped us make the diagnosis.

The antibiotic that caused the patient’s condition was trimethoprim/sulfamethoxazole, a commonly prescribed oral antibiotic. Drug-induced meningitis is very rare, but there is a lengthy list of commonly prescribed antibiotics that can cause this condition, such as trimethoprim/sulfamethoxazole, amoxicillin, metronidazole, ciprofloxacin, cephalaxin, and penicillin. Non-steroidal anti-inflammatory medications (NSAIDS), such as ibuprofen, are also among the medicines most commonly associated with the condition.

The patient’s case demonstrates the potential unwanted consequences of antibiotics and serves as an important reminder that all medicines — prescription and over-the-counter — should be taken with caution.

— Gul Madison