

## Stroke and Intracerebral Hematoma After Anticoagulants Administered

Several days after giving birth, a 33-year-old woman presented to the ED of a Michigan hospital with a recent history of dyspnea, chest pain, headaches, and abdominal pain. An emergency physician and an obstetrician/gynecologist treated her. An order was issued for a chest CT using a pulmonary embolism protocol, and heparin was administered. Following the CT scan, the patient allegedly claimed that her chest pain had resolved. The attending radiologist's report revealed no pulmonary embolism. The woman was discharged less than 4 hours later, with no further testing.

The next day, the woman went to the ED at a different hospital with complaints of headache and right-sided weakness. A CT scan at that time revealed a large left parietal lobe intracerebral hematoma. Over the next 2 days, a ventricular catheter was placed and a stereotactic craniotomy with evacuation of the hematoma was performed. The patient underwent two more surgeries and was transferred to a rehabilitation facility about a month later. She was discharged home with permanent neurologic damage, including short-term memory loss and an inability to lift or walk for any great distance.

The plaintiff claimed that both physicians failed to diagnose and treat her acute neurologic event in a timely fashion and failed to obtain consults with proper specialists. The plaintiff claimed that the physicians were negligent in administering an anticoagulant and that protamine therapy should have been started to reverse the anticoagulant effects. The plaintiff claimed that laboratory testing of clotting times and a ventilation-perfusion lung scan should have been conducted to confirm the presence of a pulmonary embolism.

The defendants contended that the administration of anticoagulants was necessary in the face of suspected pulmonary embolism. The defendants also claimed that there was no evidence that the

heparin given to the plaintiff the day before her stroke was related to the subsequent event. The obstetrician/gynecologist was dismissed from the case prior to trial.

### Outcome

According to a published account, a defense verdict was returned.

### Comment

This is a sad case, and a good example that bad outcomes can occur despite appropriate medical care. It is completely reasonable (and expected) for an emergency physician to have a high index of suspicion for a pulmonary embolism in a woman just a few days postpartum complaining of chest pain and dyspnea. It is also reasonable and medically justifiable to start anticoagulation if there is high pretest probability, as in this patient, or if there may be a delay in obtaining an imaging study. **FLC**

## Child's Bacterial Meningitis Missed on Initial Presentation

The plaintiff child was 10 years old when she was taken to the defendant medical center in Ohio with complaints of high fever, headache, and back pain. By the time she was examined by the emergency physician, her condition seemed to have improved. She was diagnosed with a probable enterovirus infection and given anti-inflammatory and pain medications.

The child returned 12 hours later with an altered mental status. She was diagnosed with bacterial meningitis. She suffered a stroke, which rendered her comatose and caused temporary paralysis. She made an excellent recovery, however. Extensive testing revealed loss of brain mass but no objective findings of cognitive or physical dysfunction. The child had a high IQ before the infection and a higher IQ afterward.

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The plaintiff claimed that the child had classic signs and symptoms of bacterial meningitis and that she should have been admitted for further testing. The plaintiff claimed that additional testing would have led to an earlier diagnosis and antibiotic treatment, which would have prevented the stroke, paralysis, and coma.

The defendant claimed that the child's improvement in the ED made it unlikely that she had bacterial meningitis at the time she was first seen. The defendants maintained that even though a loss of brain mass occurred, children of the patient's age with this type of injury generally recover due to brain plasticity. The defendants claimed that the child had fully recovered and that her lack of motivation was due to the lack of challenge for her mental capability. The defendants also argued that the treatment provided was appropriate and that the child had suffered no lasting injury.

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### **Outcome**

According to a published account, a defense verdict was returned.

### **Comment**

The presentation of meningitis can vary considerably in the pediatric population, especially in those less than 18 months of age. Older children will typically complain of headache and photophobia. This case is difficult because the child's symptoms improved during her ED stay, which argues against bacterial meningitis. An emergency physician must at least include meningitis in the differential diagnosis of the pediatric patient presenting with fever and headache. The decision to perform a lumbar puncture will ultimately depend on the age of the patient, the constellation of signs and symptoms, the duration of illness, and clinical judgment. It is extremely fortunate that no adverse outcome occurred in this case. **FLC**