Spontaneous subdural haematoma in a paediatric patient on anticoagulant therapy

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DESCRIPTION

A 5-year old girl with congenital mitral and subaortic stenosis on anticoagulant therapy since her mechanical mitral valve replacement, and a remote history of idiopathic intrahepatic cholestasis requiring liver transplantation presented with jaundice and pruritus. She was found to have elevated transaminases, and an echocardiogram revealed significantly increased right ventricular pressures concerning for pulmonary hypertension. Subsequently, the patient needed to be intubated for respiratory insufficiency and poor cardiac output. After several days in the intensive care unit (ICU), she was noted to be bradycardic and have a dilated right pupil. A stat CT of the head demonstrated a large mixed density right-sided subdural haematoma with mass effect, midline shift and early uncal and transtentorial herniation, as well as a small subdural haematoma on the left (figure 1). The mixed density of the haematoma on CT scan was likely a result of multiple haemorrhages over the previous several days and/or hyperacute blood product accumulation in the setting of a coagulopathy.

The patient was taken to the operating room for emergent decompressive craniectomy and evacuation of subdural haematoma. Prior to surgery, her coagulopathy was reversed with protamine, decreasing her PTT from 150 to 37s. The patient was also given mannitol and hyperventilated as temporising measures while the operating room

was being prepared. A large right frontotempoparietal craniectomy was performed in standard fashion. Removal of the bone flap revealed impressive swelling and tense dura with a blue tint. The dura was then opened progressively to avoid herniation of brain tissue or hypotension. Extensive mixed density clot was evacuated to reveal markedly swollen brain parenchyma with a mottled appearance, likely due to a combination of cerebral contusions from the mass effect of the haematoma as well as the patient's underlying venous hypertension (figure 1). After a satisfactory and uneventful decompression, an ICP monitor was placed, the bone flap was left off and the skin was closed in routine fashion. The patient was kept intubated and transported back to the ICU for further management.

Learning points

- ▶ Monitoring the neurological examination of patients on anticoagulation, particularly those who are intubated, is critical in early detection of intracranial haemorrhage.¹
- ▶ Venous hypertension that involves the cerebral vasculature can predispose patients to develop intracranial haemorrhages, and, in this case, cause a mottled, haemorrhagic appearance of the brain parenchyma.²

Contributors IFF was responsible for the initial written content and obtaining images. YC was responsible for reviewing and editing the manuscript and providing images for this case. RFK was responsible for reviewing and editing the manuscript. SKR was responsible for reviewing and editing as well as creating the final image for submission. All authors have approved this final manuscript.

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Figure 1 CT of the head showing right-sided subdural haematoma with mass effect, midline shift and a small subdural haematoma on the left and swollen brain parenchyma with mottled appearance after evacuation of subdural haematoma and decompressive craniectomy.

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