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Anthrax infection in an intravenous drug user

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Dear Editor,

We read with great interest the recent review by Hicks and colleagues on anthrax infection and the recently described variant affecting intravenous drug users [1]. At our institute, we have had firsthand experience of this particular group of patients and offer a case as an example of an unusual presentation and its particular relevance to critical care.

A 54-year-old female presented to our emergency department complaining of a 4 day history of severe headache. Her symptoms had become worse in the last 24 h and her partner reported her to be acutely confused. Her past medical history included insulin dependent diabetes and mild asthma. She was a long-term smoker and intravenous drug user who continued to inject heroin daily. Although alert and responsive on arrival to hospital, she quickly became comatose, her Glasgow coma

score falling from 15 to 4, requiring urgent intubation and mechanical ventilation. Computed tomography (CT) imaging of her head revealed severe subarachnoid haemorrhage (SAH) with mass effect and herniation of the cerebellar tonsils. After discussions with our neurosurgical unit, further treatment was deemed futile and a decision to withdraw all life supporting therapies and institute end-of-life care was made.

As per our unit's policy, the patient was referred to the specialist nurse for organ donation. In view of the fact that intravenous drug use does not necessarily preclude organ donation and that the patient had previously admitted her name on the UK organ donor register, written consent for potential organ donation was obtained from the patient's next of kin. Blood was taken for screening and tissue matching, and the case discussed with the regional transplant surgeons.

In the context of previous intravenous drug use and presentation with SAH, our microbiologist raised a clinical suspicion of anthrax infection. This resulted in the organ donation process being halted immediately. A short time later, Gram positive bacilli were subsequently identified in the patient's blood cultured on admission. PCR analysis of blood samples subsequently confirmed anthrax infection.

A case that appeared to be a simple but catastrophic intracranial bleed transpired to be an uncommon, but recognised presentation of anthrax infection. Although we had recently experienced other cases of injection

anthrax with soft tissue involvement, we did not suspect anthrax in this case prior to our microbiologist raising the concern. Although there had been reports of a transient urticarial rash just prior to transfer to the ICU, this resolved within hours and was not typical of cutaneous anthrax. In addition, there was the subsequent issue regarding organ donation, which may have proceeded prior to anthrax being confirmed. Indeed, this would not have been detected on routine screening by the transplant team. We commend clinicians to be alert when managing such cases and to be aware of established guidance on identifying anthrax infection, such as those published in the UK following the 2010 outbreak in Scotland [2].

Conflicts of interest None declared.

References

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