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Peri-partum management of a patient with previous Ebola virus infection

V Thwaites1, T Murphy1, E Thomson2
Department of Anaesthesia, Queen Elizabeth University Hospital, Glasgow, UK. Department of Microbiology, Queen Elizabeth University Hospital, Glasgow, UK

Introduction

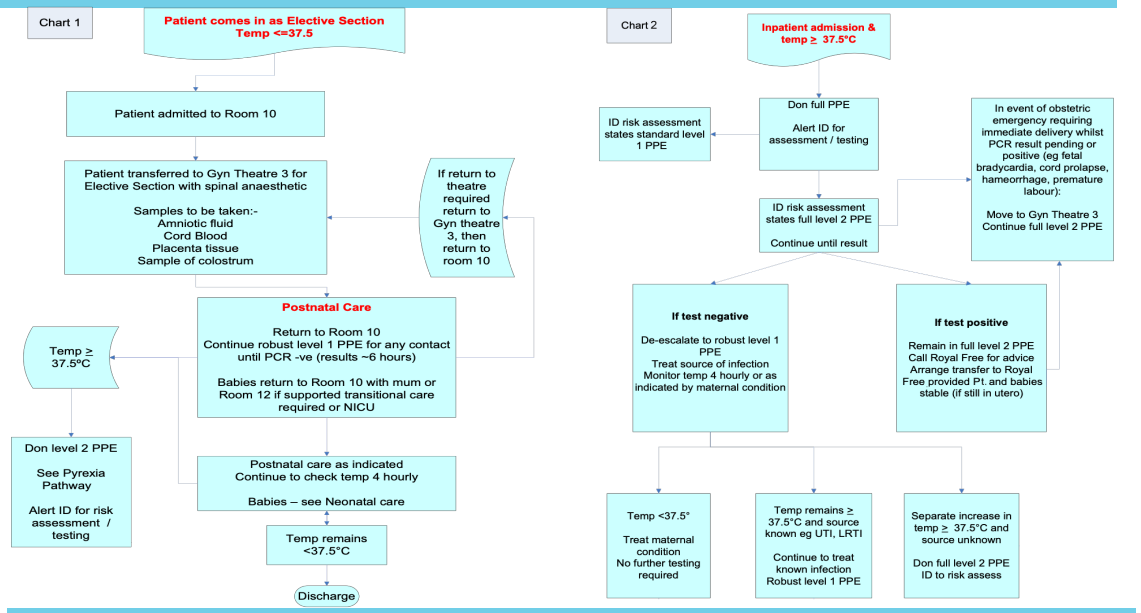
The management of patients with high consequence infectious diseases such as Ebola virus disease (EVD) is a challenge for any department. We report the case of a pregnant patient with a past medical history of Ebola virus infection and late Ebola virus central nervous system (CNS) relapse, who delivered twins by caesarean section under spinal anaesthetic.

Case report

A 43-year-old primigravida presented at 16 weeks to ante-natal clinic with DCDA twins. She had previously been treated for EVD in 2014 and readmitted to hospital in 2015 with meningoencephalitis secondary to reactivation of disease in the CNS. After initial infection, Ebola virus can persist for many months in immune-privileged sites. These include the CNS, the eye and the testis,[1] but this is the only documented case of a reactivation of EBV from the CNS.[2] During the patient's 2015 admission, a high level of Ebola virus RNA was detected by reverse transcriptase PCR in the cerebrospinal fluid (CSF), and at a lower level in plasma. The patient's symptoms resolved following treatment with monoclonal antibody therapy. Repeated testing of CSF, blood, saliva and urine following recovery in 2016 were negative.

At presentation to ante-natal clinic in 2019, the patient's age, IVF and twin status indicated an elective caesarean section (CS). This took place at 36 weeks gestation following concerns about the twins' growth trajectory. Due to the theoretical risk of Ebola virus reactivation within the CNS as a result of pregnancy-induced immunocompromise, the patient was asked to monitor her temperature, and have 4-weekly Ebola virus PCR–blood tests during her pregnancy. Since a spinal anaesthetic would involve accessing the CNS, 24 hours prior to elective CS a lumbar puncture was performed and a sample of CSF was sent for Ebola virus PCR. This sample contained no Ebola virus RNA, and an uncomplicated CS under spinal anaesthetic was performed the next day. Samples of amniotic fluid and cord blood taken after delivery were also negative for Ebola virus RNA.

A series of flowcharts were developed to help manage risk in the event of a high temperature or early labour. Two of these are inserted below. Chart 1 documents the decision making process for an uncomplicated elective CS if patient was apyrexial. Chart 2 was to be used in the event of a peri-partum pyrexia. Level 1 Personal protective equipment (PPE) consisted of Fluid repellent surgical mask and gown, disposable gloves and visor. Level 2 PPE consisted of full coverall, over boots, two pairs surgical gloves, FFP3 mask, full face visor and plastic apron.



Discussion

This case presented a number of challenges to the multi-disciplinary team involved. It was acknowledged that unsubstantiated concerns about the perceived risk of Ebola virus reactivation could jeopardise care to the patient and her twins. The main priority was therefore to provide a high level of care for the patient, while providing reassurance to her and to staff involved in managing the pregnancy. Antenatal and postnatal planning required collaboration with a large number of specialities including infectious diseases, microbiology, obstetrics, neonatology, paediatric intensive care, midwifery, anaesthetics, the ambulance service, public health, facilities and infection control.

References

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2. Jacobs M, Rodger A, Bell D et al. Late Ebola virus relapse causing meningoencephalitis: a case report. Lancet, 2016; 388:498-503.