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First Covid-19 maternal mortality in the UK associated with thrombotic complications

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We report the first maternal death of a 29-year woman of Pakistani origin at Birmingham Heartlands Hospital (BHH), UK on the 8 April 2020.

She had a body mass index (BMI) of 35, type 2 diabetes mellitus (T2DM) on metformin and insulin, renal tubular acidosis, asthma and vitamin D deficiency. In her first pregnancy, she had a stillborn baby. At her first antenatal (booking) visit, her glycated haemoglobin (HbA1c) was 9.7%. She also had a high albumin creatinine ratio but with normal kidney function.

She was admitted in mid-January 2020 due to poor diabetes control and low serum bicarbonate levels. Ultrasound scan at 26 weeks gestation showed a big baby with increased amniotic fluid volume (polyhydramnios).

She had more than 20 hospital attendances in March 2020 due to reduced baby's movements. She received corticosteroids for fetal lung maturity. Fetal surveillance was normal.

She was admitted to BHH delivery suite on the 24 March 2020 (~29 weeks gestation) with fever. She was started on amoxicillin and enoxaparin for venous thromboembolism (VTE) prophylaxis and was tested positive for SARS-Cov-2. Chest x-ray (CXR) was normal. Her temperature settled and was discharged the following day.

She attended BHH on the 1 April 2020 with severe breathlessness requiring 100% oxygen and was admitted to the High Dependency Unit on delivery suite. Investigations revealed diabetic ketoacidosis and treatment started.

Next day, her respiratory function worsened and following a multi-disciplinary meeting, delivery (~31 weeks gestation) by Caesarean Section under general anaesthesia was performed. She was transferred to Intensive Care Unit (ICU). Her baby was immediately intubated upon delivery and transferred to Neonatal ICU. Baby has been extubated and is doing well. Subsequent SARS-Cov-2 testing of baby was negative.

She improved and was extubated onto intermittent CPAP on the 3 April 2020. However, on the 7 April 2020, she complained of blurring of vision and was reintubated due to deteriorating respiratory function. CT pulmonary angiogram revealed right lower lobar pulmonary embolism, extensive bilateral ground-glass and patchy solid consolidation consistent with Covid-19 pneumonia; a CT head revealed basilar artery thrombosis. Discussions with the neurosurgeons concluded that no further treatment could be offered. On the following day, care was withdrawn, and she passed away.

Both pregnancy and Covid-19 increases the risk of thrombosis.^{1,2} This case has highlighted the synergy of these factors in increasing the risk of thrombotic complications in pregnant women with Covid-19 especially those admitted to ICU.² Moreover, she had T2DM, which has been reported to increase the morbidity and mortality associated with Covid-19.³

In summary, clinicians and carers need to be extra vigilant to the thrombotic complications in pregnant women with Covid-19.

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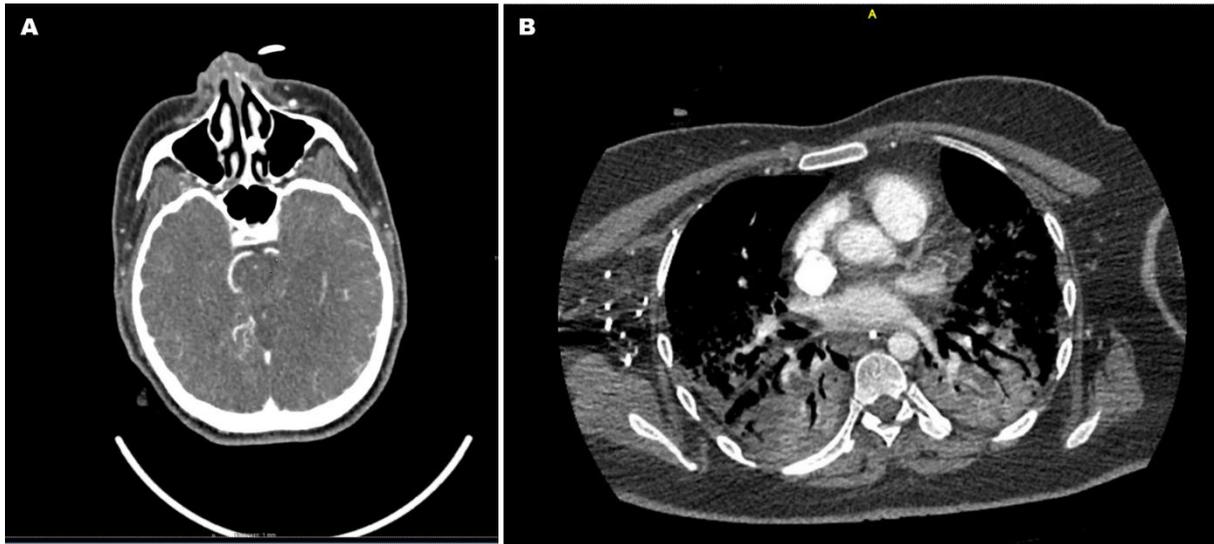


Figure (A) Non-contrasted CT scan of the head with intracranial angiogram showing established acute infarcts in the PCA territories bilaterally extending to the left hippocampus and left and midbrain; hyperdense clots in the basilar artery and P1 segment of the left PCA on the non-contrasted CT brain which are confirmed with cessation of contrast in the angiogram. **(B)** CT scan of the chest with pulmonary angiogram showing right lower lobar pulmonary embolism; extensive bilateral ground-glass and patchy solid consolidation in keeping with established Covid-19 infection.