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Correspondence

Acute heart failure during delivery: Is it the pregnancy or the allergen?

Sir,

We present a case of anaphylactic shock and acute cardiomyopathy during caesarean delivery.

A 31-year-old patient presented as Gravida 6, Para 4, Abortus 1, Living 3 at 38 weeks of gestation for a scheduled quaternary caesarean delivery. She had an insignificant past medical history and no history of allergies to food or drugs. Blood test, urine tests and vital signs were normal.

The caesarean delivery was performed under spinal anaesthesia and the fetus was delivered within 10 min of incision time. Gel foam was used for haemostasis. Soon after, the patient developed urticaria and vomiting. She had no chest pain or dyspnoea. She developed hypotension reaching 50/40 mmHg, followed by pulselessness and undetectable blood pressure. Resuscitation by the anaesthesia team was started. A second large-bore intravenous access ensued, and an epinephrine and fluid bolus was given, after which the patient recovered in seconds.

Allergy to gel foam was suspected, so the gel foam was removed. Intra-operative echocardiography showed a dilated left ventricle (LV) and ejection fraction (EF) of 35%, leading to the suspicion of peripartum cardiomyopathy (PPCM). However, this did not explain the urticarial rash.

The patient was transferred to the intensive care unit. Whenever she was examined, she re-developed the same rash. This raised the suspicion of latex allergy. Positive latex IgE was detected, with a value of 46 kU/l.

The patient was discharged on postoperative day 3 on beta blocker, angiotensin-converting enzyme inhibitor and furosemide. EF before discharge was unchanged, but improved to 60% in 2 months.

PPCM is a rare condition comprising dilated heart failure with LV dysfunction, manifesting clinically in the third trimester of pregnancy or the first 5 months post partum [1]. Maternal age ≥ 30 years is an independent risk factor [1], which was the case for the study patient. This entity is a diagnosis of exclusion. Approximately 50% of cases recover completely or nearly completely in 6 months [1], which was the case for the study patient. However, other outcomes include clinical deterioration and heart

failure, and can result in the need for heart transplant or even death [1].

Anaphylaxis is a severe systemic response that develops after exposure to an antigen to which the body is sensitized [2]. Only a few publications on anaphylaxis during pregnancy have been published [3].

This case raises suspicion for three conditions that are not commonly encountered, and are definitely not commonly encountered together. Devastating consequences for the mother and the unborn fetus can develop in all of these conditions, and any cardiomyopathy, including that of pregnancy, places the mother at risk of cardiovascular decompensation.

The patient definitely had anaphylaxis to latex, which confirms one of the diagnoses. She may have had undiagnosed cardiomyopathy of pregnancy which contributed to the acute decompensation when anaphylaxis to latex developed. Another hypothesis is that she developed anaphylactic-shock-associated cardiomyopathy, considering the temporal association between anaphylactic shock and low EF. The co-existence of pregnancy and atopy makes the diagnosis difficult, as either one could be the direct cause of the condition and/or an exacerbating factor.

Counselling on latex allergy was not challenging, as the advice is clear. What is unclear is how to counsel about the next pregnancy in the context of potential peripartum cardiomyopathy. In the light of a mortality rate that can reach 32% [4] and the fact that the study patient had undergone four caesarean deliveries already and completed her family, counselling against another pregnancy was plausible in this case. However, in a patient who wishes to get pregnant again, how would one approach counselling?

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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