CASE REPORT

Cervical shock: a complication of incomplete abortion

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SUMMARY

A case of a 37-year-old female primagravida who attended the emergency department (ED) via ambulance in hypotensive shock. She was 10 weeks pregnant, but had an inevitable miscarriage confirmed in the local Early Pregnancy Unit 3 weeks previously. She was hypotension (90/60 mm Hg), bradycardic (45 bpm) and was peripherally shut down. A provisional diagnosis of haemorrhagic shock was made, but despite intravenous fluid challenges, she appeared to be deteriorating, so a major haemorrhage protocol was activated. On examination, there was some vaginal bleeding and a protruding sac noted. The gynaecology registrar was informed and performed an Evacuation of the Retained Products of Conception in the ED. This gave instant relief to the patient and her blood pressure and heart rate became normal over a few minutes. She went on to make a full recovery. This case provides useful learning points for doctors working in the ED and other urgent care settings.

BACKGROUND

This case highlights an unusual complication of incomplete abortion and the importance of making the diagnosis promptly in the emergency department (ED) to allow for expert management. It is an important case because most cases of shock in the ED will be from other causes (septic shock, hypovolaemic shock) rather than from increased vagal stimulation. If this was not recognised, the patient may have received inappropriate treatment with excessive intravenous fluids and even blood products. Of course prompt care also is a critical component of abortion care with haemorrhage and sepsis, two much more common causes of shock with abortion. We hope that this case provides some useful learning points for doctors working in the ED and other urgent care settings.

CASE PRESENTATION

A 37-year-old woman who attended the ED via ambulance in hypotensive shock. It became apparent that she was 10 weeks pregnant (G1P0), but had an inevitable miscarriage confirmed in the local Early Pregnancy Unit 3 weeks previously. Her observations revealed hypotension (90/60 mm Hg) with bradycardia (45 bpm) and the patient was cold to the touch, peripherally shut down and appeared to be deteriorating despite intravenous fluid challenges.

INVESTIGATIONS

A full set of bloods, including a group and save, was sent. At the time of initial assessment, the only blood test available was a venous gas, which was normal, confirming a haemoglobin of 100 g/dL.

DIFFERENTIAL DIAGNOSIS

The initial management by the ambulance staff was for the most likely diagnosis for early-pregnancy bleeding with shock secondary to haemorrhage. An alternative diagnosis would have been septic abortion and, in view of her pain, another differential was a uterine rupture. However, her bradycardia and lack of response to fluid resuscitation suggested vagal stimulation that was relieved after delivery of the protruding sac stimulating her cervix.

TREATMENT

Evacuation of the Retained Products of Conception with sponge-holding forceps.

OUTCOME AND FOLLOW-UP

Following the procedure, her blood pressure normalised, her heart rate remained low (50 bpm) but her ECG confirmed normal sinus rhythm. She was stabilised and transferred to the gynaecology ward for monitoring. After an uneventful overnight stay, she was discharged the following day with the following advice:

1. Avoid sexual intercourse and tampons until bleeding settles.
2. Home pregnancy test in 2 weeks; if positive, then to contact gynaecology for further investigation.
3. Return if concerned or increasing pain with or without bleeding.

DISCUSSION

Bleeding in the first trimester is a common problem in up to 25% in early pregnancies, and 50% of those women will go on to have a normal pregnancy.¹ However, vaginal bleeding may signify pathologies such as abortion, ectopic pregnancy and gestational trophoblastic disease.¹⁻³

In those presenting to the ED with shock, this will commonly be due to sepsis, hypovolaemia or haemorrhage.² Patients with an incomplete abortion and retained products of conception commonly have one or more of the following signs: uterine bleeding, pelvic pain, fever and uterine tenderness.³ Patients with haemorrhagic shock have obvious blood loss and those with septic abortion have signs of sepsis.⁴

In this case, the hypotension and bradycardia were triggered by vagal stimulation as the products

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Patient's perspective

We knew that she was going to have a miscarriage and had been to the Women's Unit that morning where we had agreed a medical management of the miscarriage as an inpatient the next day. At about 18:00, she started to feel intermittent pain and we knew that the miscarriage had started. The pain continued to get worse between then and about 9:30 but at that stage not really any worse than severe period pains. She then decided to go to bed to try to get some rest.

About an hour later, she experienced a sharp increase in the pain to an unbearable level and was just able to let me know that she thought she was about to faint—despite the fact that she was lying down. A few seconds later she fainted, then had a fit which lasted about 15 s and was unconscious for about a minute during which time I had called 999. By the time I was on the call with an operator, she was starting to come round although she was still unresponsive. She had a very weak pulse and had lost all colour in her skin and even as she started to come round was unable to communicate. After several minutes, she started to communicate that she was in severe pain. The paramedic arrived within a few minutes and quickly had her on a drip and hooked up to monitors. I think at this point I was so relieved to have a paramedic there so don't really remember much of what happened between then and the ambulance arriving. She came round a bit more, was in a huge amount of pain and the pain relief she had been given wasn't helping. Shortly after she was given morphine she threw up and this temporarily brought her heart rate and blood pressure up but over the next few minutes it dropped back down again.

We then left in the ambulance for the hospital, all the way making a lot of noise about how much it hurt. When we arrived at hospital, she was taken immediately into A&E. At this point, the A&E doctors asked me for the history of the evening, including whether she had experienced severe blood loss, which she had not. From my perspective, it appeared that they considered her to be experiencing suspected internal bleeding given the low blood pressure. The medical team working with her struggled to get an intravenous line into her arms and made numerous attempt, having problems due to her low blood pressure and dehydration. There was suggestion of carrying out a blood transfusion and possibly surgery, although it appeared that they were still unclear as to what the problem was. Again, she was sick after more morphine and again her blood pressure came up temporarily. I wondered afterwards whether this temporary alleviation of some symptoms was what made the doctors seek the opinion of the on-call gynaecologist before proceeding to surgery.

As soon as we described the symptoms to the on-call gynaecologist, she was sure that the problem was cervical shock and within a matter of minutes later had treated her with fairly immediate relief of the severe pain.

We're both really grateful to the amazing team of ambulance crew, doctors and nurses who looked after us. In particular, the first paramedic to arrive was amazing. He was so in control and reassuring and made us both feel like we were in safe hands.

of conception passed through the cervix.³ As the products were removed, the vagal stimulation ceased and the patient made a rapid recovery. Prompt care for abortion will limit pain and

haemorrhage during an incomplete abortion and represent the most critical care for a septic abortion.⁴

Contributors JB and DG reviewed the patient in the department. SM was the supervising consultant. The manuscript was written by JB, and reviewed and edited by DG and SM. All authors have read and given their final approval to the submitted version of the manuscript.

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Learning points

- This is an unusual type of shock to see in the emergency department as most will be from other causes (sepsis, hypovolaemia, haemorrhage).
- Hypotensive shock without tachycardia or failure to respond to fluid or blood resuscitation should make you think of shock due to vagal stimulation.
- It is important to make the diagnosis early as the only treatment for cervical shock is prompt removal of products; this relieves the vagal stimulation, and the patient should recover quickly.

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