A collapsed young woman in shock

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Emergencies can spring up at any time and in many incarnations. Are you adequately equipped to deal with them? Here is a case study in emergency medicine that is based on a real case. Would you have been able to help this patient?

On your way to one of your regular shifts as a GP in the busy local hospital emergency department you muse that the things patients present with have changed over the years you've been seeing patients. You arrive and have hardly put down your bag when you are called to help with a patient being wheeled in from an ambulance.

Severe abdominal cramping

The ambulance officers give their usual detailed handover report. When they had reached the patient, a 29-year-old woman, she was complaining of severe abdominal pain and found to be hypotensive (systolic blood pressure 90 mmHg) and hyperventilating (30 breaths per minute), with a pulse of 80 beats per minute.

Apparently, the patient had returned to her office after having morning tea and had suddenly suffered severe low abdominal cramping. She had been on the phone to a friend when she blacked out for about a minute. When she came to, she was on the floor, still with abdominal pain. The pain was now intermittently worse and she also noted tingling and cramping in her fingers and toes.

The ambulance officers had found it difficult to transfer the patient from the office. A stretcher could not be used so she had been carried out in a chair. On the way to the hospital, in spite of the use of intravenous polygeline solution (Haemaccel), her systolic pressure had dropped to 70 mmHg. She had remained fully conscious and alert, but was very pale and sweaty. The officers noted some abdominal distension but no vaginal bleeding. On arrival at the hospital, she had started to vomit.

Triage category 1

The patient is taken straight into 'resusc' as a triage category 1 (life threatened, to be seen immediately). Although in cardio - vascular shock, she is able to give a history and co-operate with all the procedures: oxygen by mask, insertion of large bore cannulae in each arm, taking of blood for crossmatching and other tests, and insertion of a urinary catheter. The otherwise healthy patient also says that she thinks she is pregnant. Some eight weeks ago, while on the pill, she had missed a period, and a home urine pregnancy test about four weeks ago had been positive. She already has a 1-year-old child.

A vaginal examination reveals no blood and a closed cervical os but there is extreme cervical excitation consistent with marked peritonism. An ECG confirms sinus bradycardia (Figure 1). This paradox with the patient's hypotension is thought to be due to the intensive vagal stimulation from the peritoneum that is often seen when there is blood in the abdominal cavity.

The obvious working diagnosis is a ruptured ectopic, and the gynaecologists are paged urgently.

A relatively recent addition to the diagnostic armamentarium of emergency medicine is bedside ultrasound (specifically, focused abdominal sonography in trauma [FAST].) This examination permits rapid and accurate screening of

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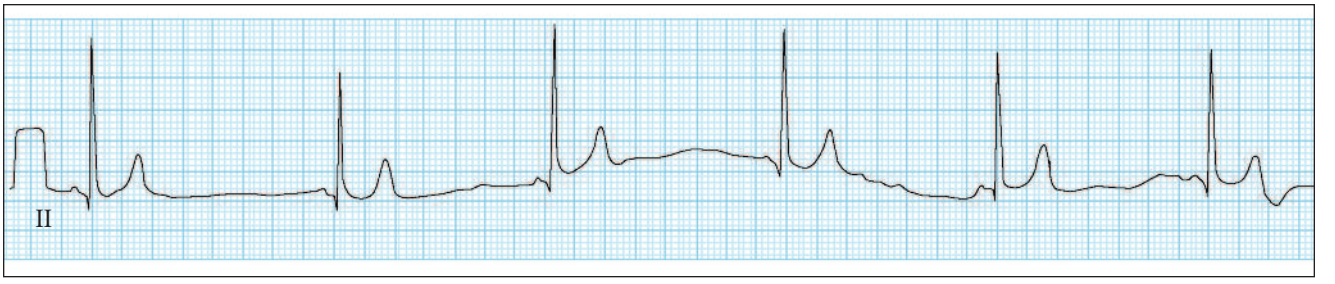

Figure 1. The patient's ECG shows sinus bradycardia (lead II shown).

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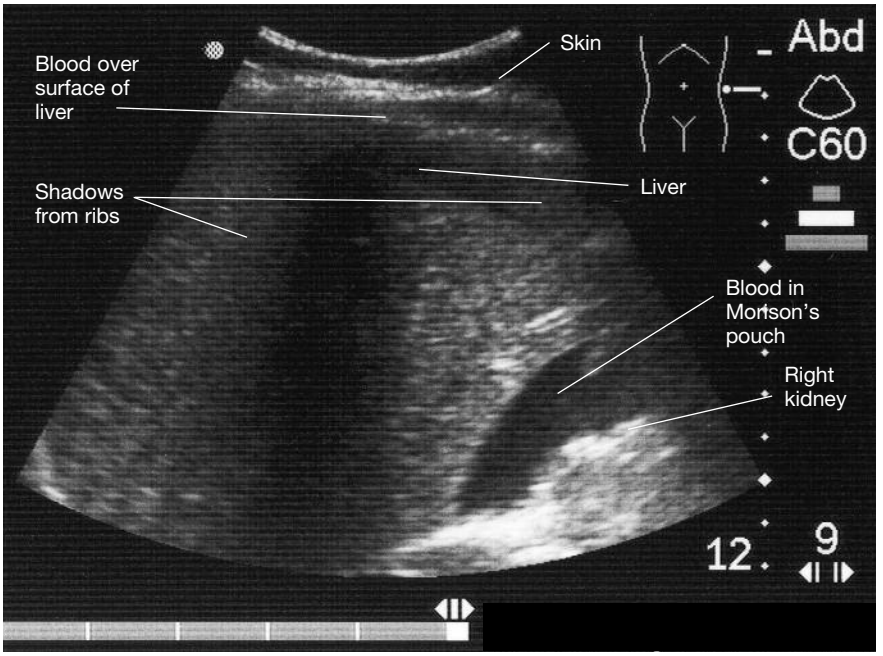

Figure 2. Ultrasound shows a large amount of free blood in the abdominal cavity.

trauma patients, usually for free fluid in Morison's pouch (between the liver and the top of the right kidney), enabling decisions about surgery to be made quickly by noninvasive means.

The duty emergency medicine consultant wheels over, on a stand, a modern ultrasound machine that is half the size of a laptop computer. (This machine had been bought by money specifically donated to the emergency department by generous benefactors.) A quick explanation to the patient, some jelly to the lower right chest wall and abdomen, and a significant amount of fluid/blood is identified (Figure 2).

Some of the laboratory results return, confirming a critically ill patient. Her haemoglobin is 106 g/L (normal range, 115 to 165 g/L), but surprisingly her white cell and neutrophil counts are not raised. She is quite acidotic, arterial blood gas sampling showing a pH of 7.25 (normal, 7.35 to 7.45) with some respiratory compensation (HCO_3 18 mmol/L; normal, 24 to 31 mmol/L). Crossmatched blood is put up.

Surgery necessary

The gynaecologists prepare the emergency operating theatre. They come to see and speak to the patient and her partner, and obtain consent for surgery. A brief meeting with the social worker on duty in the emergency department allows the basic arrangements for support to be worked out while the patient is in hospital.

At operation, a ruptured ectopic pregnancy is confirmed. Active arterial bleeding and some three litres of blood are found in the abdomen. A partial left salpingectomy is performed.

After the operation, the surgeon compliments the emergency department staff on the timely and good management of this patient. He is impressed by the FAST ultrasound; this was especially useful since detecting a large amount of blood in the abdominal cavity of a hypotensive patient is a contraindication to diagnostic laparoscopy (insufflation and distension of the abdominal cavity can further compromise the circulation and may even cause the patient to arrest).

The patient did very well and was discharged three days after admission with a staple remover for her GP to 'do the honours'. The social worker reported back after a follow up visit that the patient was not distressed about events as she thought it was nature's way with pregnancies that may not turn out to be normal. The patient did, however, mention she did not quite understand the pre-operative explanation by the surgeon that one of her fallopian tubes 'exploded'.

A rare diagnosis nowadays

After many years of not having seen an ectopic pregnancy, let alone one so classically dramatic, you hear later that the department had another two cases in the following few weeks – the old 'they come in threes' superstition? You are relieved that medicine does many things better now and that, as a consequence, some diagnoses have become rare or at least present earlier. MT

Share your innocence

Sometimes on our journey of learning we can be enlightened by events that are humorous, surprising or touching. Clarity is invariably sharpened by looking through the retrospectoscope. We'd love to hear your own experiences and will send a bottle of Penfolds 707 to the author of each contribution that we publish. Contributions should be at least 600 words in length, and you may use a nom de plume if you wish. Please send your anecdotes to: Medicine Today, PO Box 1473, Neutral Bay NSW 2089, for consideration.