Hiccups and distended loops (answers on page 39)

Part one

Thomas, a 70-year old man of European descent living in Kenya, was driven by a friend to see his doctor after three days of diarrhoea and vomiting. He had some medical knowledge, so that he had tried to resolve things by drinking copious amounts of watery fluids. By the third day he was very ill.

By this time he was very dehydrated, had a resting pulse rate of 160/minute and his blood pressure was 80/40 mm Hg. His temperature was 37° Celsius, his abdomen was distended, and he had hiccups. With each hiccup spasm he brought up a small amount of dark green bile. He was admitted directly to hospital.

Q1 What are your top three priorities for Thomas?

- **(a) Pass a nasogastric tube and siphon off the stomach contents**
- **(b) Start an intravenous infusion of normal saline**
- **(c) Organise an abdominal ultrasound examination**
- **(d) Insert a urethral catheter into the bladder to estimate fluid balance**
- **(e) Take blood samples (f) Chest Xray (g) Electrocardiogram**

Part two

The nasogastric tube drains copious dark green material, and the abdominal ultrasound reveals distended loops of small bowel. He has no bowel sounds and continues to be distended. His blood pressure is rising to within normal levels, but he still has a tachycardia of around 120/minute. His hiccups continue, exhausting him. Nine years before he had a proximal hemicolectomy for stage 1 cancer of the caecum, and three years before he had a transurethral resection of the prostate for chronic granulomatous prostatitis.

Q2 What are your preliminary thoughts about his current diagnosis?

- **(a) He has a severe viral gastroenteritis causing paralytic ileus.**
- **(b) His small bowel obstruction may be related to adhesions following his bowel surgery.**
- **(c) There may be a problem, such as a stricture, at his ileo-colic anastomosis that would complicate his gastroenteritis.**
- **(d) The past surgery is irrelevant: he has not had symptoms in the 9 years since his bowel surgery.**
- **(e) Severe viral gastroenteritis can present and worsen in this way regardless of the past history.**

Part three

Three efforts to pass a catheter into the bladder failed, so that he had to have a guided endoscopic catheter insertion past a stricture at the base of his bladder. He was left with the catheter in situ. Over the next few days he became severely oedematous, and his urine output declined. At this point his haemoglobin was now 9.1, serum albumin 19, C-reactive protein (CRP) of 200, and estimated glomerular filtration rate (eGFR) 29. His white cell count is only very slightly raised.

Q3 What are your thoughts on these developments?

- **(a) He has been over-hydrated by the intravenous infusion.**
- **(b) He has an acute toxic renal failure linked to the bowel inflammation.**
- **(c) The haemoglobin and serum albumin levels are explained by his haemodilution.**
- **(d) He needs total parenteral nutrition intravenously, having had no nutrition for 8 days: he is starving to death if this continues.**
- **(e) The relatively low white cell count with such a high CRP suggests bacterial food poisoning rather than severe viral infection.**

Part four

Q4 What would you do about the oedema? His BP has risen from his usual 140/75 to 180/110

- **(a) Give a powerful diuretic such as furosemide**
- **(b) Treat him conservatively: as the bowel inflammation recedes and the obstruction eases you can expect the kidneys to recover and a diuresis to start.**
- **(c) Add a BP-lowering agent such as amlodipine that is least likely to harm the kidneys.**
- **(d) Stop the intravenous infusion.**

Part five

After ten days the bowel obstruction eased and the urine flow improved. Colonoscopy showed no problem with the ileocolic anastomosis and a repeat abdominal ultrasound showed a normally functioning bowel. His BP returned to 145/85 mm Hg, his haemoglobin to 13, the CRP dropped to 15, and the eGFR rose to 39. Two months later Thomas was back to his usual life.

Q5 What is your final diagnosis?

- **(a) Acute viral gastroenteritis complicated by post-operative adhesions and toxic renal inflammation.**
- **(b) The renal failure may have been heightened by the urethral stricture causing chronic back pressure on the kidneys.**
- **(c) Food poisoning leading to this series of complications.**
- **(d) An acute allergic reaction in the gut to some ingredient in a meal over the previous 48 hours.**

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