

## ED QUICK QUIZ

### WHAT IS THE DIAGNOSIS?

#### BACKGROUND

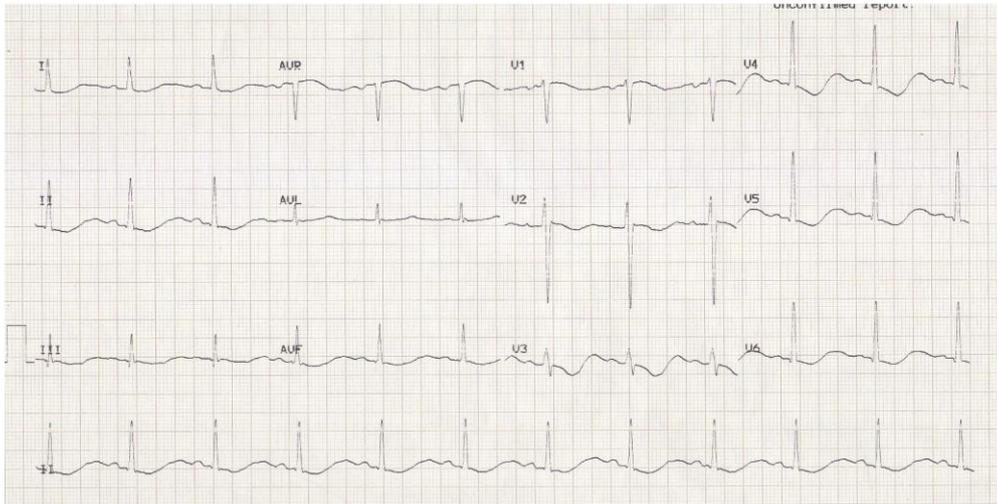
A 29 year old woman presents to A&E with two weeks of diarrhoea and abdominal pain. Though initially watery, it has now become bloody and she is passing 8 stools per day. The abdominal pain is central and colicky and is becoming more severe. She has no past medical or drug history and stopped smoking a few weeks ago.

She has no travel history, no sick contacts and cannot think of any suspicious meals.

Examination: the abdomen is mildly tender centrally but not peritonitic. She is febrile. There are some lesions seen on the oral mucosa and legs:



Her ECG is as follows:



#### QUESTIONS

1. What is your differential diagnosis?
2. What does the ECG show?
3. What investigations and management will you perform?

## ANSWERS & DISCUSSION

### 1. Differential Diagnosis

- **Inflammatory bowel disease.**
- **Infectious diarrhoea** - Shigella, Salmonella, E.coli, Campylobacter, C. difficile, Yersinia.
- **TB**
- **Ischaemic colitis**
- **Diverticulitis**

In this case the cause is new onset of inflammatory bowel disease (though a formal diagnosis will require a scope and biopsy). The first picture shows an aphthous ulcer while the second shows erythema nodosum, both of which are extra-intestinal manifestations of UC and Crohn's. Another clue is the recent cessation of smoking which can precipitate an acute attack of ulcerative colitis. Extra-intestinal manifestations are a useful clinical clue to the diagnosis of inflammatory bowel disease versus other causes of diarrhoea.

| Extra-Intestinal Manifestations of Inflammatory Bowel Disease |   |
|---|---|
| Related to disease activity                                   | Unrelated to disease activity             |
| Aphthous ulceration   | Sacroiliitis                              |
| Fatty liver (UC)  | Ankylosing spondylitis                    |
| Erythema nodosum  | Primary sclerosing cholangitis (UC)       |
| Arthropathy   | Fatty liver/hepatitis/cirrhosis (Crohn's) |
| Episcleritis/uveitis  |   |
| Pyoderma gangrenosum  |   |

### Markers of a severe attack of IBD:

- >6 blood stools/day
- Systemically unwell (eg pyrexia and tachycardia)
- Hb <10g/dL
- Albumin <30g/L
- Toxic colonic dilatation (colon >6cm)

### 2. ECG findings

There is widespread ST depression, T wave inversion, U waves and prolonged QT consistent with **hypokalaemia**. Electrolyte abnormalities due to diarrhoea are common. ECG changes appear when potassium is less than 2.7.

Other features of hypokalaemia include muscle weakness, hypotonia, hyporeflexia, cramps, tetany and arrhythmias (especially torsades de point).

### 3. Investigations and Management

- **Bloods** - FBC, U&E, magnesium, LFT, VBG (?lactic acidosis from sepsis/hypovolaemia/gut ischaemia ?metabolic alkalosis secondary to hypokalaemia), ESR, Group and save.
- **Stool culture:** perform a stool culture on anyone with bloody diarrhoea of potentially infective origin.
- **C. diff stool antigen:** if there has been recent antibiotic therapy or hospitalisation (there has not in this case).
- **Pregnancy test.**
- **AXR:** to detect toxic megacolon.
- **ECG monitoring** to detect onset of torsades/other arrhythmias in hypokalaemia
- **IV fluid rehydration**
- **IV potassium +/- magnesium** replacement in the context of hypokalaemic ECG changes or potassium <2.5.

**Refer to medics** for investigation and treatment. In a patient with known IBD with a severe attack (like the above) then commence hydrocortisone 100mg 6 hourly. In a patient in whom the diagnosis is not yet confirmed it would be more appropriate for the medical team to start steroids, if required.

**Indications for surgical intervention:** perforation, uncontrollable bleeding, obstruction (stricture), abscess formation, fistula, persistent symptoms or development of toxic megacolon despite 5/7 medical therapy.