

# Acute Gastroenteritis: Case Presentations which Illustrate Alternative Diagnosis

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## ABSTRACT

**Four illustrative case histories are presented to emphasise the need for a high index of suspicion if diseases such as appendicitis, septicaemia and malaria are not to be missed.**

An acute onset of diarrhoea, abdominal pain and vomiting suggests infective or toxin-induced gastroenteritis. These typical gastrointestinal symptoms may have other causes and failure to reach the correct diagnosis can have serious implications for the patient. We present four illustrative patients who were referred to the infectious diseases unit, Jamaheria hospital, Benghazi, Libya, with a diagnosis of "acute gastroenteritis". Stool microscopy and culture were negative and in each case an alternative treatable diagnosis was made.

## THE CASES

### Case 1:

A 26 year old libyan male was referred with a 2 days history of profuse watery diarrhoea, vomiting and abdominal pain. He was ill and dehydrated with temperature of 37.5°C, pulse 90/minute and supine blood pressure 120/80 mmHg. His abdomen, in the first day of admission, was soft and lax with no organomegaly and in the second day he started to have generalised abdominal tenderness particularly in both illiac fossae with positive rebound tenderness. Rectal examination was normal. Peripheral white cell count was  $21.8 \times 10^9/L$  with 72% neutrophils. Haemoglobin, blood glucose, blood urea, serum electrolytes, urine routine examination and chest X-Ray were normal. A clinical diagnosis of appendicitis was made and he was operated on the second day. The appendix was inflamed and he underwent appendectomy.

Final diagnosis: Acute Appendicitis.

### Case 2:

Thirty nine year old housewife with a 10 year history of bronchial asthma was referred with a 3 day history of fever, headache, vomiting, abdominal pain and watery diarrhoea.

She was ill and restless with a temperature of 40°C, pulse 130/minute and supine blood pressure 80/50 mmHg. There was diminished entry and crepitation over the right side of the chest. Peripheral white cell count was  $24.2 \times 10^9/L$  with 80% neutrophils. Chest X-ray revealed opacity in the right middle zone and the lower part of the right upper zone (Fig 1). Blood glucose and serum electrolyte concentrations were normal. A diagnosis of pneumonia and septicaemia was made and she was treated with intravenous fluids, ampicilline and erythromycine. Within 24 hours all 3 blood culture bottles yielded streptococcus pneumoniae and her antibiotic was continued with ampicilline only. The diarrhoea resolved and she made a full clinical recovery after few days. Her radiological signs in the chest disappeared after two weeks (Fig 2).

Final diagnosis: (1) Pneumonia  
(2) Septicaemia

### Case 3:

A 24 year old woman was admitted with a 3 day history of vomiting, headache, postural dizziness and diarrhoea. She was restless and drowsy, but not clinically dehydrated. There was increased pigmentation over the knuckles, knees and mouth along with minor scars. Her temperature was 37°C, pulse 120/minute, supine blood pressure 75/50 mmHg and erect blood pressure unrecordable. Blood urea was 48mg/dl (13 mmol/L), serum sodium was 130 mmol/L and serum potassium was 5.1 mmol/L. Full blood count and blood glucose were

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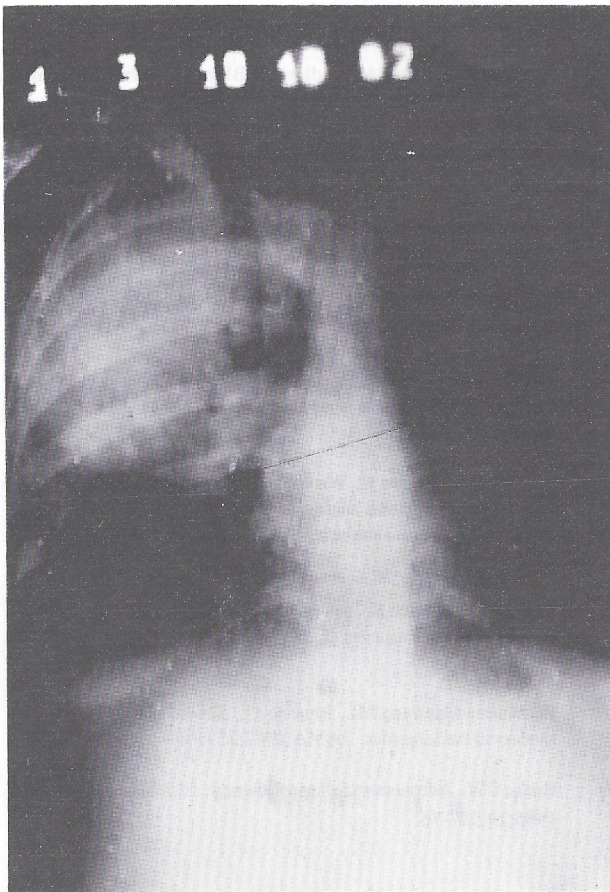


Figure 1

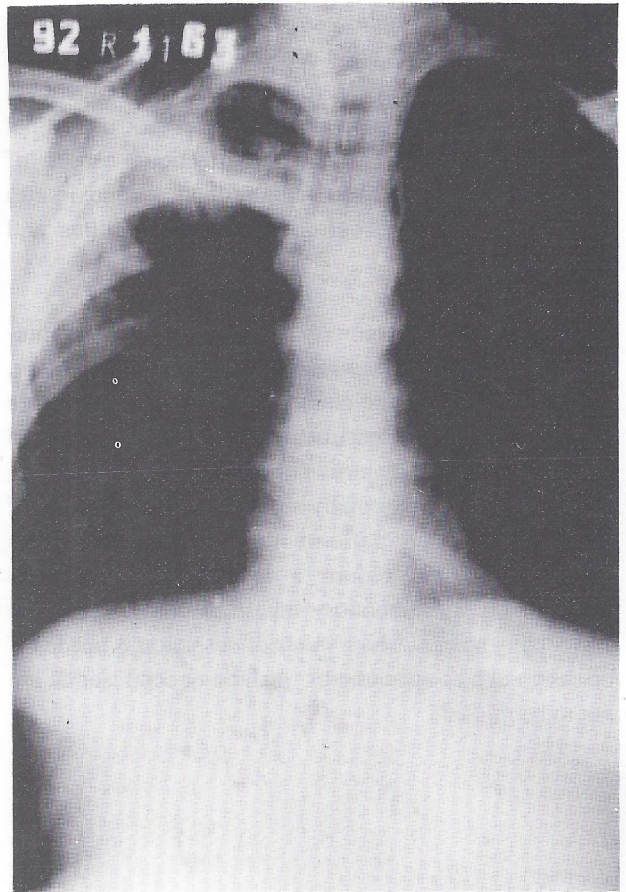


Figure 2

normal. A clinical diagnosis of Addison's disease was made. She was treated with intravenous saline and hydrocortisone, after which a dramatic improvement in her haemodynamic status was recorded with cessation of vomiting. Serum cortisol on admission was 119 mmol/L (normal range 130-650 mmol/L). She was discharged home on appropriate cortisol replacement.

Final diagnosis: Addison's Disease

#### Case 4:

A 29 year old Libyan business man presented with a 2 day history of fever, myalgia, diarrhoea and vomiting. He had returned 10 days before from a short business trip in Sudan. His temperature was 40°C and his abdomen was diffusely tender on palpation. Haemoglobin, white cell count, platelet count and serum biochemistry were normal. The thick and thin blood films revealed plasmodium falciparum. He was treated with Chloroquine. By the third day he was afebrile and his diarrhoea had resolved.

Final diagnosis: Malaria

#### DISCUSSION

Although gastrointestinal symptoms were the predominant presenting features in these 4 cases, there were clues in the history and examination of each patient to suggest a non-gastrointestinal aetiology. In the first patient, acute appendicitis was suggested by the physical signs and in the second case there was also clinical evidence of chest infection and septicaemia. In the third patient adrenal insufficiency was suggested by the physical signs of Addison's disease. The fourth case is a reminder that any ill patient who has returned from a malaria endemic area has malaria until proved otherwise, even if adhering fully to an appropriate antimalarial regimen<sup>1</sup>.

Gastrointestinal symptoms may be a prominent manifestation of many infections. Watery diarrhoea affects 8% of patients with pneumococcal bacteraemia, and up to 20% of those with Gram-negative bacteraemia<sup>2,3</sup>. Diarrhoea occurs in about one quarter of patients with pneumococcal or atypical pneumonia, and it is common manifestation of falciparum malaria both in non-immune and semi immune adults<sup>4-6</sup>.

The pathophysiology of diarrhoea and vomiting in systemic infection is not clear. Endotoxin and cytokine production may play a role, and in pneumococcal bacteraemia local involvement of the gastrointestinal tract may occur<sup>7,8</sup>. Other non-infectious causes of diarrhoea include drugs (eg. antibiotics, digoxin etc) alcohol, uraemia, uncontrolled diabetes mellitus and Addison's disease<sup>9</sup>.

Diarrhoea is a common symptom in most communities. The majority of episodes are mild and self-limiting, and are managed in the community. Patients with more severe or prolonged gastroenteritis should be admitted to hospital where supportive management with attention to rehydration will normally suffice. However, many of such hospitalised patients do not have infective gastroenteritis, and require a detailed history, clinical examination and laboratory investigations to reach the correct diagnosis. A high index of suspicion is needed if diseases such as appendicitis, malaria or septicaemia are not to be missed.

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