

## Typhoid Colitis

by

I.C. CHIKANZA, C.F. KIIRE, A.S. LATIF,  
P. MASON, P. NEILL, P.N. OKWANGA

Faculty of Medicine  
University of Zimbabwe  
P.O. Box A178, Avondale  
Harare, Zimbabwe

and

C.L.M. OLWENY  
Royal Adelaide Hospital  
Adelaide, South Australia

### SUMMARY

Salmonellosis is one of the commonest endemic diseases in Tropical Africa. Furthermore, typhoid fever is a disease that is unique to man with no other animal species acquiring an illness similar to man even after oral ingestion of the live organisms (Hornick *et al.*, 1970).

Typhoid fever has a myriad of complications. Typhoid colitis is distinctly uncommon judging from the paucity of reports in the literature. We report two cases of typhoid colitis who had massive rectal haemorrhage, which should alert one to the possibility of typhoid colitis. One of the cases developed myocarditis as well.

### CASE REPORTS

*Case 1.* F.K., a 25 year-old male was admitted to Parirenyatwa Hospital with a seven-day history of headache, dizziness, nausea associated with vomiting, abdominal pain and diarrhoea. Prior to developing diarrhoea he had constipation and diffuse abdominal pains and a dry cough. His sister had been treated for typhoid one month previously.

Physical examination revealed that he was pyrexial (39.5°C) and pale but not jaundiced. The pulse rate was 84/minute with a BP of 120/80 mmHg. The heart was normal. The abdomen was diffusely tender with an enlarged spleen.

Examination of the respiratory and central nervous systems revealed nothing of note. A tentative diagnosis of typhoid fever was made.

Relevant tests included a haemoglobin of 10 g/dl, a WBC of  $2.5 \times 10^9/L$  (Normal differential), a platelet count of  $178 \times 10^9/L$ , an ESR of 60 mm in the first hour (Westergren), normal urea and electrolytes and a normal chest X-ray. A blood slide for malarial parasites was negative.

The prothrombin index was 93%. The stool culture was positive for *Salmonella typhi* but urine and blood cultures were negative. The Widal test showed titres of 1:1280 for "H" and "O" antigen.

The patient was treated with oral chloramphenicol 2 gm/day. His temperature began to subside but by day 15 of his illness he developed massive rectal bleeding. Sigmoidoscopy revealed transverse oval ulcers in the sigmoid colon with active bleeding. There was relative sparing of the rectum. The haemorrhage was managed conservatively by blood transfusion when necessary and settled by day 19. At about day 18 he developed heart failure with clinical and electrocardiographic features of myocarditis. This settled by day 21 after treatment with diuretics. Seventy-two hours after stopping treatment the patient relapsed as evidenced by the development of a fever of 39°C and he was treated with ampicillin for a further 21 days with complete resolution of the illness.

*Case 2.* M.S., a female aged 38 years was admitted to Harare Central Hospital with a three-day history of massive rectal bleeding which had been preceded by a bout of watery diarrhoea. She also admitted to a history of headache and diffuse abdominal pain.

Physical examination revealed a pyrexia of 38°C with pallor but no icterus. Her pulse rate was 100/minute with a BP of 140/80. The heart was normal. Abdominal examination revealed diffuse tenderness with no visceromegaly. Digital examination of the rectum revealed only blood. Examination of the respiratory and central nervous systems revealed nothing of note.

Relevant investigations showed a haemoglobin 9 g/dl, a WBC of  $5.3 \times 10^9/L$ , a platelet count of  $175 \times 10^9/L$ , a prothrombin index of 90% and normal urea and electrolytes. Blood and stool cultures grew *Salmonella typhi*. Urine cultures were negative.

The Widal test showed titres of 1:640 for "O" and 1:1280 for "H" antigen. A colonoscopy was performed. The colonoscope was introduced up to 1.3 m mark (caecum) and transverse ulcers were visualised throughout the colon. These were more marked in the transverse colon. The intervening mucosa was normal. Most of the ulcers were oozing blood. The rectum was spared.

Biopsies were taken and the histology showed ulceration with acute inflammation but with no evidence of granulomata.

She was managed conservatively with blood transfusion. Chloramphenicol treatment was initiated with the bleeding stopping by day four of

starting treatment. She made an uneventful recovery and at follow-up has not relapsed.

## DISCUSSION

Enteric fever is still a major health hazard in the developing world. The complications are manifold and virtually involvement of every major body organ has been described. It is difficult to define what constitutes an uncomplicated attack since typhoid is a phasic illness with septicaemia and toxæmia such that the manifestations of both these features might be classified as usual features of the disease. It is now customary to separate usual from unusual presentations (Rowland 1961). Deviations from the usual can be arbitrarily divided into six different aetiological groups:

1. Those due to the typhoid organism, such as relapse, meningitis, endocarditis, osteitis, pyelitis and cystitis;
2. Those due to toxæmia: the typhoid state, myocarditis, hyperpyrexia, hepatitis and bone marrow suppression;
3. Those due to local lesions in the gut: haemorrhage, perforation and paralytic ileus;
4. Those due to severe illness: parotitis, bronchitis, bed sores and pneumonia;
5. Those due to treatment: marrow damage and hypersensitivity;
6. Reactive and immune complex phenomena, such as arthropathy, glomerulonephritis and intravascular coagulation.

The two cases presented fall into Categories 1 and 3 respectively. In typhoid fever, hyperplasia of Peyer's patches can be seen by the first week of illness, necrosis in the second and ulceration in the third week. The ulcers are oval in shape and situated in the long axis of the lower ileum (Manson-Bahr and Apted, 1982). The exudate is on the peritoneal surface. Separation of the sloughs may lead to haemorrhage and perforation. Haemorrhage has classically been said to originate from the Peyer's patches. We present two cases of typhoid colitis in whom lower gastrointestinal endoscopy revealed oval ulcers in the colon with sparing of the rectum. In one case, colonoscopy showed ulceration with active bleeding throughout the colon; in other words, the patient had pancolitis leading to rectal haemorrhage. In both cases bacteriological proof of infection with *Salmonella typhi* was obtained.

Biopsy of the ulcers in Case 2 showed histological evidence of an ulcer with acute inflammation. The histology of typhoid ulcers is non-

specific. In as far as we could search in the medical literature, there is paucity of documentation of this complication and this has prompted us to report typhoid colitis.

Treatment with chloramphenicol resulted in cure in Case 2 but relapse in Case 1. It may well be that this unusual manifestation is probably not as common as it first appears. We would like to point out that massive rectal haemorrhage should always alert one to the possibility of typhoid colitis in the tropics.

## ACKNOWLEDGEMENT

We would like to thank the Secretary for Health for allowing us to publish these two case reports.

## REFERENCES

- Hornick, R.B., Greisman, S.E., Woodward, T.E., Dupont, H.L., Dawkins, A.T. and Synder, M.J. (1970) *New Eng. J. Med.*, **283**, 686.
- Manson-Bahr, P.E.C. and Apted, F.I.C. (1982) *Manson Tropical Diseases*, 18th ed., Bailliere Tindall, London.
- Rowland, H.A.K. (1961) *J. Trop. Med. Hyg.*, **64**, 143.
- Stuart, B.M. and Pullen, R.L. (1946) *Arch. Intern. Med.* **629**.
- Woodruff, A.W. (1984) *Medicine in the Tropics*, 2nd Churchill Livingstone, Edinburgh.