Case Report

Typhoid fever colitis with massive lower gastrointestinal bleeding

Yousif Salem^{1*}, Keith Johnston², Amro Salem¹

¹Department of General Surgery, ²Department of Anesthesia, King Hamad University Hospital, Busaiteen, Kingdom of Bahrain

Received: 26 November 2018

Accepted: 01 January 2019

***Correspondence:**

Dr. Yousif Salem,

E-mail: yousifas-2@hotmail.com

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ABSTRACT

Authors are presenting the case of a 34year old female, with no known comorbidities, who after recent travel to Pakistan, presented with fever for 1 month and was diagnosed with typhoid fever.

During her admission she developed bleeding per rectum and abdominal pain labeled as right-side colitis, confirmed by endoscopy and CT scan, which was managed surgically by extended right hemicolectomy and ileostomy.

The aim of this case is to discuss a rare complication of typhoid fever which is lower gastrointestinal bleeding, and high light the importance of considering rare infectious cases if not in endemic areas.

Keywords: Colitis, Enteric fever, *Salmonella typhi*, Typhoid

INTRODUCTION

Typhoid fever is an infectious disease transmitted through ingestion of contaminated food and water or through the fecal oral route.¹ It is commonly found in developing countries with poor sanitation, overcrowding and untreated water are found.²

As per WHO 22 million cases are reported annually and 200000 deaths per year worldwide and 93% of cases are in the Asian countries.³ *Salmonella typhi* is the causative microorganism of enteric fever.^{3,4}

Presentation of thyphoid fever can be by a wide range of symptoms, due to the involvement of multiple organs.¹ A 10-15% of enteric fever patient will develop complications and Massive lower gastrointestinal tract bleeding secondary to typhoid colitis is extremely rare complication accounting only for 10%.¹

The aim of this case presentation is to report a rare complication of enteric fever which requires surgical intervention.

CASE REPORT

This a thirty four year old Pakistani female living in Kingdom of Bahrain for the past twenty years, with no significant past medical and surgical history.

Presented with fever of 1month duration. In addition to that she reported having episodes of bloody diarrhea and vomiting few days prior to her presentation. The patient spent her vacation in her home country of Pakistan recently and she denied any contact with ill people.

Upon examination she was conscious, alert, oriented and appears well dehydrated. Her vital signs were heart rate 108 beats per minute, temperature 40 degrees celcius, respiratory rate 28 breath per minute and blood pressure 103/67mmHg.

Abdominal examination revealed hepatomegaly and tenderness over the right side of the abdomen, while the cardiovascular, respiratory and lower limbs examination were unremarkable.

Complete blood count, liver and kidney functions, stool and urine analysis and chest X-ray were done and showed only pancytopenia. In addition to that abdominal ultrasound suggested acute cholecystitis and hepaosplenomegaly.

Blood culture showed *Salmonella typhi* growth.

The patient was diagnosed with typhoid fever and admitted for further management, which consists of IV fluids and antibiotics.

During her hospital admission, day 2 she started to complain of right sided abdominal pain and significant bleeding per rectum. She became acutely hypotensive and hemoglobin level dropped from 10g/dl to 5.8g/dl, she was stabilized with aggressive resuscitation and reviewed by the ICU team. Her general condition remained unstable and bleeding per rectum continued and persistent fever was noticed despite the use of intravenous antibiotics and antipyretics.

Due to that CT abdomen and pelvis done which showed Right colonic inflammatory process, suggesting typhoid colitis with endoluminal filling defects within whole colonic loops (consistent with blood clots) (Figure1).

Figure 1: Coronal view showing inflamed ascending colon and gall bladder stones.

Figure 2: Resected bowel segment with severe inflamed wall.

A flexible colonoscopy performed after and confirmed the presence of Severe inflammation of the right colon with bleeding.

The surgical decision was made to take the patient for laparotomy, right hemicolectomy and cholecystectomy due to presence inflamed gall bladder confirmed by abdominal ultrasound.

Intraoperatively the right colon was found to be inflamed with friable wall (Figure 2) and distended and tortuous splenic, superior mesenteric and portal veins.

Figure 3: Histopathological slide showing ulcerated mucosa with granulation tissue at the base.

The histopathology of the gall bladder and ascending colon revealed chronic cholecystitis and typhoid colitis, with secondary ulcerations (Figure 3) respectively.

DISCUSSION

Although salmonella typhi infection is rare in the Arabian gulf countries, however it should be considered in the differential diagnosis of a patient with recent travels to endemic areas like India and Pakistan where the incidence rate is around 500 per 100000 persons.^{5,6}

Salmonella is a gram negative bacilli and it is the causative organism of typhoid fever, WHO reported 21 million cases of typhoid in 2014 and 0.2 million deaths worldwide were related to typhoid infection.⁴ The gold standard of diagnosis is isolating the causative microorganism in a culture especially bone marrow.³ The clinical presentation is highly variable as the infective pathogen invades many organs and massive lower GI bleeding remains a rare presentation, caused by mucosal involving the terminal ileum, ascending colon and transverse colon which can be seen endoscopically.^{1,2,5,7} The most common segment of intestine involved is the terminal ileum, followed by ileocecal valve, ascending colon and transverse colon respectively.⁷

Among bowel complications secondary to enteric fever perforation and hemorrhage are considered major and life threatening.² Majority of massive lower GI bleedings secondary to typhoid bacteremia reaching up to 98% are

treated conservatively with adequate resuscitation, antibiotics, blood transfusion and other supportive measures. However failure of the previous route warrants an aggressive intervention aiming to save the patient life and stop the bleeding as in our case.^{2,7} As in present case, conservative measures failed to stabilize the patient condition and accordingly the surgical intervention was carried. Most commonly bowel ulceration secondary to typhoid colitis are variable in size and multiple with punched out edges.² Studied patient had *S. typhi* bacteremia and hepatosplenomegaly on presentation, which are considered predictive factors for both colitis and bleeding. In addition to that it indicates that the patient is having a severe form of typhoid fever.⁷ Only 2% of patients with typhoid related lower GI bleeding requires surgical intervention, due to failure of conservative measures and GI complications related mortality rate reaches up to 10%.^{1,2}

CONCLUSION

Always suspect typhoid bacteremia in individual with recent travel history to endemic regions. Early diagnosis and treatment are crucial in preventing serious complications. Lower GI bleeding is a rare entity not more than 10% of complicated typhoid fever, but life-threatening mandating surgical intervention when clinical situation failure to respond conservative measures.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Salem Y, Johnston K, Salem A. Typhoid fever colitis with massive lower gastrointestinal bleeding. *Int Surg J* 2019;6:601-3.