

Post Cervical Abscess by *S. paratyphi* A: An Unusual Presentation

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Abstract

A case of abscess in the post cervical region due to *Salmonella enterica* serotype A in non-diabetic patient is being reported. The patient presented with painful swelling in the post cervical region with fever for seven days. FNAC was done to rule out tuberculosis and the aspirate was sent for aerobic culture as well as culture for Mycobacterium tuberculosis. The culture by MGIT and smear for acid fast bacilli by ZN stain was negative. *Salmonella enterica* serotype A was identified by VITEK II system and confirmed by specific antiserum. Drainage of abscess and proper antibiotic therapy resolved the abscess.

Keywords: Post Cervical Abscess; *S. paratyphi* A

Introduction

Salmonellae are gram-negative bacilli with more than 2500 serovars that cause different types of human and animal infections. *Salmonella* organisms can be divided into two main categories. Typhoidal *Salmonella* are responsible for enteric fever and the reservoir of these species are human beings. Non-typhoidal *Salmonella* cause localized infections and blood stream infections in human beings with reservoirs are widely distributed among animals. In humans, nontyphoidal *Salmonella* infections are most often associated with food products; the rest is nosocomial infections or is acquired from pets. Enteric fever is acquired by ingestion of *Salmonella* organisms in contaminated food or water. Infective dose of *Salmonella* is about 10^6 bacilli. First detected in 1976, the spectrum of diseases caused by this organism is steadily increasing. After withstanding with the low pH of the gastric juice the organisms reach the gut. The bacilli penetrate the epithelial lining and are phagocytosed by macrophages and are carried to the local lymphatic tissue where they multiply and after a brief bacteremia they disseminate to other body parts and colonize in reticuloendothelial tissue. After further multiplication they spill into the blood causing septicemia with signs and symptoms of enteric fever. Following suppurative local lesions have been reported in literature, extra intestinal infectious complications like pulmonary system [1], hepatobiliary system [2,3], urogenital system [4-6], Head and neck infections [7-9], breast abscess [10,11]. Pyogenic infections of head and neck generally caused by *Streptococcus*, *Staphylococcus*, or other anaerobic species. Pyogenic lesions caused by *Salmonella* is rare [7]. *Salmonella paratyphi* A, one of the causative agents of enteric fever, has rarely been implicated in focal suppurative complications [2,4,12]. We report a rare case of post cervical abscess due to *Salmonella enterica* serotype A in non-diabetic patient.

Case Report

A 55 years old non diabetic male presented to ENT department of Parul Sevashram hospital, Gujarat, India with history of fever and painful swelling on right side of posterior cervical region since one week (Figure 1). FNAC was advised to rule out abscess or lymphadenitis with super added infection.

Lab investigation revealed elevated Total WBC count (13,900/c.mm.) with 71% polymorphs, ESR was 56 mm at 1 hr. Other blood parameters including the blood sugar, LFT and RFT were within normal limits. The serology for HIV and Hepatitis B was negative.



FNAC from right upper cervical region indicated inflammatory lesion (Tuberculosis). The aspirate was sent for a routine aerobic culture as well as for Liquid culture by MGIT for *Mycobacteria*.

The Gram stain of the aspirate revealed plenty of neutrophils and short Gram negative bacilli. Smear for Acid fast bacilli was negative. Patient was empirically put on I.V. Cefuroxime 1 gm BD.

Salmonella enteric serotype Paratyphi A was isolated from the aspirate and the speciation was done on Vitek 2, the strain was sensitive to third generation of cephalosporins and Azithromycin and was resistant to fluoroquinolones. Azithromycin was added 500 mg OD for 3 days. Liquid culture by MGIT for mycobacteria even after two weeks was also negative. The patient was discharged at the end of a week after he became afebrile.

Past history

The patient had history of Pulmonary Koch's and taken the full course of AKT for 1 year. The patient was non diabetic and had no other co-morbidity.

Discussion and Conclusion

S. paratyphi A is true pathogen, capable of causing both intestinal and extra-intestinal infections in humans. The neck abscess due to *S. paratyphi* A is very rare and only has been reported by Behera, *et al.* 2012 [8] and Zala DB, *et al.* 2017 [13]. Localized suppurative lesion is a rare manifestation of *Salmonella paratyphi* A. This report presents a rare case of neck abscess due to *Salmonella paratyphi* A that resolved after the treatment with third generation cephalosporin and Azithromycin. During the follow up the patient remained afebrile and the lesion had resolved. Present case report emphasizes the need of microbiological investigation such as culture of all the suppurative lesions for identification of routine as well as rare etiologic agent. This also aids strongly in targeted therapy for complete resolution. We also suggest that all the specimens collected by FNAC whether lymph node or otherwise should be sent to microbiology laboratory for Gram's staining as well as culture and antibiotic sensitivity. Careful examination of stained smear followed by culture can be rewarding as in the present case.

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