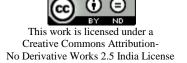
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Case Report:

Cellulitis Due to Salmonella infantis.

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Abstract: Bacteria of the genus Salmonella are highly adapted for the growth in both humans and animals and cause a wide spectrum of disease. The growth of Serotypes S. typhi and S. paratyphi is restricted to human hosts, in whom these organisms cause enteric (typhoid) fever. The remaining Serotypes (non typhoidal Salmonella or NTS) can colonize the gastrointestinal tracts of the broad range of animals, including mammals, reptiles, birds and insects. The usual clinical presentation of non-typhoidal salmonellae (NTS) infection is self limited gastroenteritis; however bacteremia and focal extra intestinal infection may occur. However salmonella localization to the skin presenting as cutaneous ulceration is regarded as a rare event. Rates of morbidity and mortality associated with NTS are highest among the elderly, infants, and immunocompromised individuals, including those with hemoglobinopathies, HIV infection, or infections that cause blockade of the reticuloendothelial system. We isolated S. infantis in 50 years old man with left leg cellulitis. The serotype was confirmed at Central Research Institute,

Key Words: Salmonella infantis; Cutaneous infection.

Introduction

Non-typhoidal salmonellosis is an important enteric infection in humans, particularly in neonates and younger children. Bacteria of the genus of salmonella can produce a wide of infection in human including gastroenteritis typhoid fever, bacteria and localized infection. Skin ulceration and soft tissue infection due to cutaneous and localization of salmonella is regarded as an exceeding rare event. Non typhoidal infection in infants typically causes self limiting diarrhoea, it occasionally result in extra intestinal infection such as bacteremia with or without localized infection. Non typhoid salmonella usually occur in elderly or very young

children and in immunocompromised subject. Although reports of ESBLs associated with Salmonella are relatively rare compared to those for other species in the family Enterobacteriaceae, the number of reported cases in this organism has been increasing in recent years.²

Here we report a rare case of cellulitis due to Salmonella infantis in a non immunocompromised individual.

Case Report:

50 years old otherwise healthy farmer man was admitted with diagnosis of left leg cellulitis. He had history of fever and painful multiple ulcers on left lower leg since 3 days which progressed to cellulitis evolving into cutaneous gangrene. Systemic examination was found to be normal. All routine investigation were normal except, Hb was 9.0 gm/dl. Peripheral blood count 22000/cumm with 86% segmented neutrophil 10% lymphocyte.

X-ray picture of involved leg showed no bone or periosteal abnormalities. Chest x-ray was normal.

Patient underwent surgical debridement of the gangrenous patches and pus culture was done. On MacConkey agar it grew nonlactose fermenting colonies. It was gram negative motile organism.Catalase positive, oxidase negative and reduced nitrate. Triple sugar iron medium showed alkaline slant with acidic butt with H₂S production. Indole test was negative, methyl red positive, citrate was utilized. Organism agglutinated with poly O (A-E) antisera.The isolate was reported as *Salmonella species*. The isolate was sent to Central Research Institute, Kasauli (H.P.) for further identification & was identified as *S. infantis*. Patient being a farmer, possible contact with animals might have led to the unusual salmonella infection.

Antibiotic susceptibility of organism was tested by standard disk diffusion method as per Clinical Laboratory Standards Institute guidelines. The isolate was sensitive to tetracycline (30µg), amikacin (30µg), co-trimoxazole(1.23/23.7µg), and netilmycin (30µg). And isolate was resistant to cefoxitin(30µg), ticarcillin(75 µg), cefoperrazone(75 µg), ceftizoxime(30µg), ceftazidime(30µg), coamoxyclav(20/10µg), gentamicin(10µg), ciprofloxacin(5µg), cephalexin(30µg), ceftraxone(30µg), carbenicillin(100µg), piperacillin(100 µg), cefuroxime(30µg) and ofloxacin(5 µg). The strain was positive for ESBL tested by disk potentiation method using ceftazidime(30µg) and ceftazidime-clavulanic acid disks (30/10 µg).

Patient was kept on antibiotic according to sensitivity report and showed no signs of further spread of wound infection or systemic deterioration.

Patient underwent split thickness skin grafting once the wound had well granulated and was discharged having made full recovery.

Discussion:

Necrotizing fasciitis is characterized by widespread necrosis of fascia and deeper subcutaneous tissues with initial sparing of skin and muscles. A mixed pattern of organism, aerobic streptococci, bacteroids, staphylococci, coliform, E.coli and proteus plays a role in infectious process but salmonella localization to the skin presenting as cutaneous ulceration is regarded as rare event³

Non-typhiodal salmonella like augustenberg panama, dublin have been reported as a cause of cutaneous infection.^{4,5}

Awareness of the likelihood of uncommon salmonella causing human infection should prompt identification of all salmonella strains. Careful attention needs to be paid to having potential to acquire ESBL enzyme, 6 as they are easily transmitted among members of enterobacteriaceae, thus facilitating the dissemination of resistance not only to β lactams but also to other commonly used antibiotics such as quinolones and aminoglycosides. ESBL-producing salmonella isolates resistant to several antibiotic agents, especially 3^{rd} generation cephalosporins,are increasingly reported.



Pre operative photograph of the case of cellulitis.

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