Salmonella Neck Abscess in A Diabetic Patient

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Abstracts: Serotypes Salmonella Typhi and Salmonella Paratyphi are restricted to human host in whom these organism cause enteric fever. The remaining non-typhoidal salmonella often cause gastroenteritis and can be associated with bacteremia and localized suppurative infection. We report a case of neck abscess caused by Salmonella Typhi. A 40 yrs. diabetic male patient presented with painful swelling on a left side of neck. Patient had past history of fever before 2 months with positive Widal test. On culture the pus yielded pure growth of Salmonella Typhi. Blood culture was negative. Patient responded to incision and drainage and Ceftriaxone treatment. [Kombade S NJIRM 2014; 5(5):118-119]

Key Words: Salmonella Typhi, abscess, diabetes mellitus, ceftriaxone, co-amoxiclav, ampicillin

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Introduction: Serotypes Salmonella Typhi and Salmonella Paratyphi are responsible for enteric fever. The remaining non-typhoidal salmonella are generally associated with localized suppurative infections [1]. We report a case of neck abscess caused by Salmonella Typhi.

Case Report: A 40 year old male patient, autorikshaw driver, resident of Nagpur came to casualty with chief complaints of fever and swelling in neck since 2 days.

On examination patient was febrile with swelling on left anterolateral side of neck. The swelling was soft, tender and diffuse extending from thyroid cartilage above to supra-clavicular region below, from left sternocleidomastoid muscle laterally reaching to midline, approximate size is 9-10 cm X 4-5 cm. Local temperature was raised.No lymph nodes were enlarged.

No history of trauma and gastrointestinal symptoms.No complaints of headache, neck stiffness, dysphagia, hoarseness of voice.

Past medical history revealed fever prior to 2-3 months with T_O 1:120 and T_H 1:240 in Widal test diagnosed as enteric fever and treated with Cap ampicillin. Patient also gives history of diabetes mellitus.

Incision and drainage of the swelling was performed (Fig 1). It was frank pus. On gram stain no organisms were seen. On culture, there was pure growth of Salmonella Typhi. It was susceptible to ampicillin, chloramphenicol, cephotaxime and ciprofloxacin. Blood culture and widal test were negative. Stool culture does not reveal salmonella. Patient was treated with Inj ceftriaxone, gentamicin and metronidazole. Patient showed initial response in form of decrease in pain, swelling and fever. After two days pain, swelling and fever again aggravated.

Repeat pus aspirate showed pure growth of Klebsiellapneumoniae. It was ESBL producer, resistant to gentamicin, ciprofloxacin and sensitive to piperacillin-tazobactam, imipenem, amikacin, tobramycin and netillin. Pus aspirate after 2 more days grew the same organism with same sensitivity pattern. Repeat blood culture and widal test were negative. Patient responded to Injamikacin with decrease in discharge, pain and fever.

Ultrasonography revealed large ill-defined abscess in the left paraoesophageal plane extending into prevertebral space with acute thrombosis of left internal jugular vein.

Figure 1: AlmonellaTyphi Neck Abscess

Discussion: Members of the genus salmonella can be divided into typhoidal salmonella and non-typhoidal salmonella.[1] Localized soft tissue infections is rarely seen with non-typhoidal salmonella, but it is very unusual with typhoidal salmonella.[2] The risk factors for localized soft tissue infection by salmonella includes diabetes, HIV infection and local trauma.[3] The risk factor diabetes was present in this patient.

The causative agent of neck abscess appears to be Salmonella Typhi, *Klebsiellapneumoniae* being the secondary hospital acquired infection.

In the first pus aspirate, there was pure growth of Salmonella Typhi. Blood culture, stool culture and widal tests were negative. The patient gives past history of typhoid fever. Ampicillin might have failed to eradicate salmonella. The patient might have become convalescent salmonella carrier, with development of neck abscess after 2 months. 1-4% of the patients can develop the chronic carriage.[3] The Salmonella Typhi isolate was susceptible to ampicillin, chloramphenicol, cephotaxime, nalidixic acid and ciprofloxacin. This finding is in accordance with recent reports from some regions where the incidence of MDR *S.* Typhi isolates appeared to have decreased.[4] Blood culture; stool culture and widal test were negative.

The known complication of salmonella soft tissue infection is septic thrombophlebitis.[5]In this patient acute thrombosis of left internal jugular vein was seen.

Klebsiellapneumoniae, one of the eight most important infectious pathogens in hospital, accounts for 3-7% of all nosocomial bacterial infections.6During incision and drainage, there might be secondary infection with Klebsiellapneumoniae. Sal.Typhi responded to Inj. ceftriaxone but ESBL producer Klebsiellapneumoniae flourished replacing Salmonella. It was treated by amikacin.

Thus, Salmonella is a rare but significant aetiology of neck abscess in immunocompromised patients such as diabetes mellitus. So clinicians and microbiologists should broaden their differential diagnosis.

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