A Case of Non-typhoidal Salmonella causing a Neck Abscess with Suppurative Lymphadenitis and Myositis in a Hispanic Male with Uncontrolled Diabetes

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Introduction

Salmonella soft tissue infections are relatively rare globally and in the U.S. despite being a common source of gastroenteritis. 95 % of all salmonella infections in humans are food-borne (Hohmann 2001).

Osteomyelitis and visceral abscesses can be common secondary results of becoming bacteremic, but pathogens seeding elsewhere is uncommon. Just like more common secondary sites of infection, most soft tissues infections are secondary to GI translocation leading to bacteremia and subsequent seeding.

Objective

1. Identify at risk patient populations for higher rates of salmonella infections.

2. Describe the medical management of salmonella soft tissue abscesses.

Case Presentation

History of Presenting Complaint

A 40-year-old male presented to the ED 06/10/18 with history of fevers associated with tender right sided neck swelling since 06/08/18. He reported that prior to developing a fever he had nonspecific malaise. He stated the fever had been undulating off and on for 48 hours. The neck swelling is mildly painful to palpation but he is able to swallow and does not have airway compromise. He denied having any prodromal GI issues such as diarrhea, nausea or vomiting. He did however, endorse having right upper molar with significant decay that has been bothering him. He is from Mexico but he hasn't visited in 15 years, and denied any other TB risk factors. He denied any animal contacts at home or at work and denied recent travel. He does not have any immunocompromising risk factors other than uncontrolled diabetes. A ROS is otherwise unremarkable.

Past Medical History

The patient's medical and surgical histories are only remarkable for diabetes with an A1c 11%. He does not have relevant family history. He was taking metformin 500 mg twice a day for diabetes.

Physical Exam

Pertinent positives noted only.
- Significant right sided neck swelling directly adjacent to the patient's mandible with associated lymphadenopathy. The mass is mildly painful to palpation, firm, and with little fluctuance or indication for subcutaneous gas.
- Oropharynx was clear other than the fore mentioned right upper molar with extensive caries. There was no obvious purulence associated with the tooth.
- Patient was febrile and tachycardic but the rest of his exam was otherwise normal.

Hospital Course

- Patient presented meeting sepsis criteria but was stable.
- CT neck showed a right sided multi-loculated soft tissue fluid collection 4.5 x 2.7 x 3.5 cm in size with suppurative lymphadenitis and sternocleidomastoid myositis.
- Blood cultures were drawn, then the patient was given 1 gm of ceftriaxone and clindamycin in the ED.
- ENT was consulted.
- Prior to obtaining speciation, the patient received ceftriaxone 1 gram every 12 hours with flagyl 500 mg po TID.
- Subsequent fine needle aspirations (FNA) with both ENT and IR (Ultrasound guided) each obtained enough fluid for cultures but were not therapeutic due to the multi-loculated nature of the abscess.
- Both cultures from the separate FNAs grew non-typhoidal salmonella only resistant to ampicillin on sensitivities. Anaerobic and TB cultures were negative.
- The patient was persistently febrile and his white count and CRP remained high despite antibiotics so after discussion with ENT he was taken for I&D in the OR.
- Subsequently, his fever and leukocytosis resolved.
- He was discharged on cefdinir 300 mg BID to complete fourteen days total following source control with the I&D.

Discussion

Identifying at risk patient population for salmonella

- Predisposing factors must be considered in rare cases of salmonella soft tissue infections .
- Steroid use, H2 blockers, PPIs and immunocompromised patients have been associated with increased risk of GI translocation. .
- Heavy ETOH use, uncontrolled diabetes, and liver cirrhosis are more prevalent and possibly less considered reasons to be at risk.

Similar cases

Several case reports of other soft tissue abscesses caused by salmonella have been described in the last ten years, as the incidence of salmonellosis in developed countries remains quite high except for decreasing rates in Europe (Gillespie and Elson 2005, Mossong, Even et al. 2006). For example, a cirrhotic patient developing a neck abscesses after a suspected primary GI inoculation leading to bacteremia in 2010 (Kwon, Kang et al. 2010). Another case, more similar to our patient described here, involved an uncontrolled diabetic with an A1c 11.7% developing an anterior chest wall abscess after requiring surgical intervention (Chiao, Wang et al. 2016).

Medical Management

- Targeting the pathogen's sensitivity
- Obtaining source control with surgical intervention when required.
- No definitive duration of treatment following source control. Our team opted for a 14 day course given its severity.
- Treating the cause of the patient's immunocompromised state is also paramount. In this case, uncontrolled diabetes.

References

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