Research Paper

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An unusual site for melioidosis: parotid gland

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ABSTRACT

Melioidosis is caused by the gram negative bacillus Burkholderia pseudomallei. It is characterised by formation of abscesses in various organs. Parotid abscess is a very rare manifestation of melioidosis in adults. We present the case of a 56 year old lady, diabetic for 14 years who presented with right parotid abscess. Pus from the abscess grew Burkholderia pseudomallei. She was treated with ceftazidime and co-trimoxazole for 2 weeks and then maintained on co-trimoxazole. She made a good recovery and is doing well.

INTRODUCTION:

Melioidosis is an important cause of sepsis in endemic areas. The localised form is characterised by formation of abscesses in various organs but involvement of the parotid gland is very rare in adults. A high index of suspicion is essential for early diagnosis and to prevent morbidity and mortality; as the treatment is to be given for a prolonged duration and the drugs used have significant side effects. Pubmed review has shown only a few reported cases of melioidosis of the parotid gland.

CASE PRESENTATION:

A 56 year old South Indian lady with a history of type 2 diabetes mellitus for 14 years being treated with insulin approached our care with the complaints of swelling in the right parotid region since 3 months. She had associated fever and trismus. She had no other systemic symptoms. Her physical examination showed a 7x6 cms firm swelling in the right parotid region with a 1x0.5 cms ulcer over the swelling and pus discharge. Right upper cervical matted lymph nodes were palpable. Her other systemic exam was within normal limits.

INVESTIGATIONS:

Her hemogram showed leucocytosis (total leukocyte count: 20,700/μL) with left shift. Biochemical investigations showed uncontrolled sugars; renal and liver function tests were normal. HIV ELISA was negative. Contrast enhanced computed tomogram of the neck showed a large well defined peripherally enhancing septated cystic lesion in the right parotid gland with involvement of the masseter muscle and multiple necrotic cervical lymph nodes on the right side (figure 1 and 2). Pus culture grew Burkholderia pseudomallei. Blood cultures were sterile at 7 days.

DIFFERENTIAL DIAGNOSIS:

The differential diagnoses considered were tuberculosis, malignancy and bacterial infection of the parotid gland.

TREATMENT:

Incision and drainage of the right parotid abscess was done under general anaesthesia. Intra-operatively, an abscess was seen in the lower aspect of the right parotid gland and 15 ml of pus was drained. She was treated with 6 grams per day of ceftazidime in divided doses along with co-trimoxazole 4 double strength tablets (80/400 mg) per day in divided doses for a total duration of 2 weeks as the intensive phase. This was followed by maintenance with co-trimoxazole for 5 months.

OUTCOME AND FOLLOW-UP:

She responded well to the treatment and the fever subsided in 1 week. The wound healed over a period of 4-6 weeks and the lymph nodes regressed over a period of 1 month. She had successfully completed treatment with no adverse events. At follow up after 6 months of treatment completion, she is healthy and doing well.

DISCUSSION

Melioidosis is caused by infection with a gram negative bacterium Burkholderia pseudomallei. The common predisposing factors are diabetes mellitus, cirrhosis of the liver, chronic kidney disease, alcoholism and immunosuppressed patients.[1] Poor control of blood glucose is the most frequent predisposing factor. The mode of transmission of melioidosis is usually by inoculation or inhalation as Burkholderia pseudomallei is a soil saprophyte and is present in wet soils and water in endemic regions. Formation of abscesses in various organs is characteristic of melioidosis. Common organs involved include the lungs, liver, spleen, skeletal muscle and prostate. Parotid gland involvement in the form of parotitis and parotid abscess may be seen in a third of pediatric patients with melioidosis but is rare in adult patients.[2]

Lim et al reported a case of a parotid gland abscess in a 64 year old diabetic man which was later complicated by necrotizing fasciitis following abscess drainage.[3] Another case of melioidosis of the parotid and submandibular salivary gland in an adult diabetic patient was reported by Kamath et al.[4]

Treatment protocols are divided into an initial intensive phase for a duration of atleast 2 weeks and a longer duration of 4-8 weeks for deep seated infection. The intensive phase is followed by a maintenance phase for a minimum of 20 weeks. The recommended regimens for the intensive phase are (i) ceftazidime and co-trimoxazole, (ii) imipenem or (iii) meropenem. In maintenance phase, the regimens used are (a) co-trimoxazole, (b) chloramphenicol, doxycycline and co-trimoxazole, or (c) amoxicillin-clavulanate.[5] Early diagnosis and appropriate treatment for adequate duration is required to prevent relapses and to decrease the morbidity and mortality.

LEARNING POINTS:

- Melioidosis is caused by the gram negative bacillus Burkholderia pseudomallei.
- Melioidosis is characterised by the formation of abscesses in various organs commonly involving the lungs, liver, spleen, skeletal muscle and prostate.
- Parotid gland involvement by melioidosis is very rare in adults but should be suspected in all adult patients in endemic areas presenting with a parotid swelling.
- Common predisposing factors for melioidosis are diabetes mellitus, cirrhosis of the liver, chronic kidney disease, alcoholism and immunosuppression.

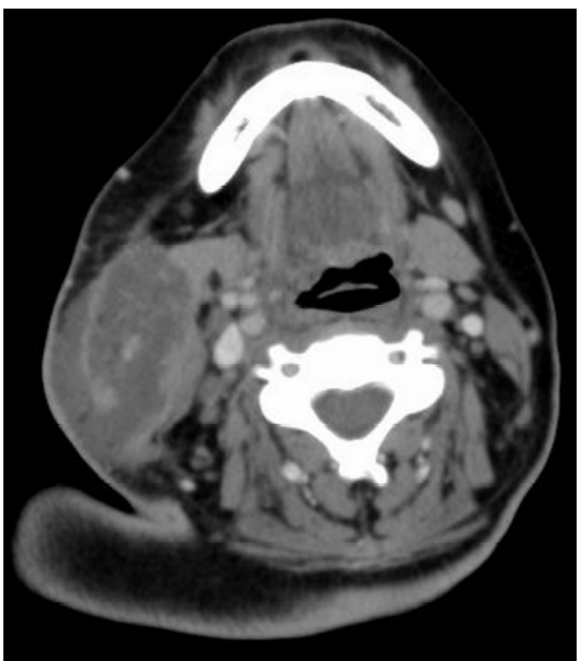


Figure 1: Axial section of computed tomogram of the neck showing a bulky right parotid gland which is heterogeneous in attenuation with areas of peripheral enhancement.

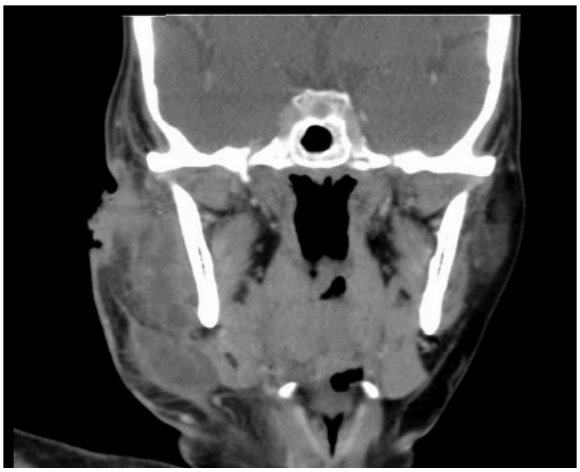


Figure 2: Coronal view of computed tomogram of neck showing a large well defined peripherally enhancing lesion in the right parotid space with involvement of the parotid gland and masseter muscle.

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