

Parapharyngeal space melioidosis in a diabetic

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Abstract

Pseudomonas pseudomallei, a gram negative organism causing melioidosis, is found in tropical and subtropical regions. It may manifest as a pulmonary lesion, osteomyelitis, soft tissue abscesses, abscesses in various organs or in septicaemic form. Melioidosis of the parapharyngeal space has not been reported so far. A case of melioidosis of the parapharyngeal space which was successfully treated by drainage and prolonged antibiotic therapy is reported here. Melioidosis should be suspected in severe forms of deep neck space infection, especially if the patient comes from an endemic area.

Introduction

Melioidosis is a rare specific infectious disease of humans caused by *Pseudomonas pseudomallei*, an inhabitant of soil and water in the tropics. Although melioidosis involving most tissues and organs has been described, parapharyngeal space involvement has not been reported so far. A patient with melioidosis of the parapharyngeal space is reported here.

Case report

A 34-year-old female presented with a swelling in the neck of two weeks duration associated with high grade fever. She also had difficulty in swallowing solids for one week. On examination, she was febrile and toxic. A soft diffuse swelling was noted on the right side of the neck below and behind the angle of the mandible. Examination of the throat revealed a bulging on the right lateral pharyngeal wall. The right tympanic membrane was dull and was partly retracted. Left ear and nose were found to be normal. A provisional diagnosis of right parapharyngeal abscess was made. There was no evidence of abscess or any other lesion, anywhere else in the body. She was also noted to be diabetic for which she was treated with insulin.

Neck exploration was performed via a skin crease incision. The parapharyngeal space was found to be filled with pus, which was drained. After drainage, the wound was closed with a drainage tube into the parapharyngeal space. There was drainage from the wound for the next two days. The pus aspirated grew *Pseudomonas pseudomallei*. There was no growth from the blood cultures done before, or even after, antibiotics. The patient was given Ceftazidime 2 gm eight hourly intravenously for the next ten days. Her condition improved remarkably and she became asymptomatic within a few days. A further antibiotic regime with chloramphenicol was continued for another one month. The patient has been on follow-up for the past year with no evidence of recurrence.

Discussion

Melioidosis is a severe and frequently fatal infection resembling equine glanders. *Pseudomonas pseudomallei* is a gram negative, non-sporulating obligate aerobe. It is found in tropical and subtropical areas between 20° North and 20° South of the equator (Howe *et al.*, 1971). Although the infection was once thought to be restricted to South East Asia, it has now been found to exist in Central and South America, West Indies,

Madagascar, Australia and Guam. Sporadic cases have also been reported from Turkey, Korea and the Philippines (Guard *et al.*, 1984). *Pseudomonas pseudomallei* is a normal inhabitant of soil and water, particularly in the rice growing areas (Strauss *et al.*, 1969). The infection may be acquired through an abrasion or wound, by inhalation or by aspiration from drowning (Lee *et al.*, 1985).

Melioidosis commonly manifests itself as a pulmonary lesion (Guard *et al.*, 1984). Other manifestations are as osteomyelitis, as soft tissue abscess or abscesses in organs such as the liver, kidney, and spleen or as a fatal septicaemia. Patients who were previously in good health generally do not develop septicaemia. The acute septicaemic form is usually associated with an underlying disease such as diabetes or immunodeficiency states (Lin *et al.*, 1980), and in spite of aggressive antibiotic therapy it still carries a high mortality rate of 50 to 75 per cent (Rode and Webling, 1981). Melioidosis has also been reported in rare sites such as the pericardium (Majid, 1990). Melioidosis involving the parapharyngeal space has not been reported so far in the literature.

Culture of the organism is still the basic and most successful means of making the diagnosis. Rising IFA-IgM titre has also been found to be useful in the diagnosis of the disease. For the serological diagnosis, a passive haemagglutination reaction and the complement fixation reaction are the most useful.

Pseudomonas pseudomallei is susceptible to broad spectrum antimicrobials. In the past a combination of tetracycline and sulphonamides has been used in the treatment. Since the advent of third generation cephalosporins, ceftazidime has been found to be successful in the treatment of melioidosis (So *et al.*, 1983). In severe illness chloramphenicol should be added. The organism is resistant to the usual aminoglycosides such as gentamicin, and also to colomycin. Though aggressive antibiotic therapy is the usual treatment for melioidosis, surgical intervention is indicated whenever there is evidence of abscess formation. Considering the danger of relapse, antibiotic therapy is normally continued for a few weeks.

A close association between diabetes mellitus and melioidosis has been reported (Guard *et al.*, 1984). Our patient coming from an endemic area was also a diabetic. It is uncertain how the infection entered the parapharyngeal space. The possible mode is through the blood stream. Timely surgical intervention in addition to proper and prolonged antibiotic therapy resulted in complete cure without recurrence. Melioidosis should be considered in the differential diagnosis of any patient with severe forms of deep neck space infection especially if they come from an endemic area.

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