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Case Report

A rare case of submandibular abscess due to *candida dubliniensis* in a known patient of chronic kidney disease

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ABSTRACT

Candida infection of salivary gland is extremely rare and a submandibular gland infection with *Candida dubliniensis* in an immunocompetent patient has, to the best of our knowledge, never been described before. Diagnosis was based on isolation of *Candida dubliniensis* in pure culture from abscess pus. Combination of a local drainage and intravenous fluconazole proved to be an efficient therapeutic strategy.

Keywords: *Candida dubliniensis*, Submandibular gland infection

INTRODUCTION

Infection of salivary gland most commonly has a viral (e.g. mumps virus) or bacterial origin. These are most commonly seen in elderly person debilitated by systemic diseases such as diabetes, immunocompromised status.[1] Other predisposing factors are dehydration, malnutrition, sialectasis, ductal obstruction and medication that suppresses salivary flow.[1,2] Fungi have rarely been reported as etiological agents. Cryptococcus neoformans, Histoplasma capsulatum and *Candida albicans* are the most frequent.[3,4] In this report, we present a rare case of submandibular abscess due to *Candida dubliniensis* in a known patient of chronic kidney disease.

CASE REPORT

A 50 years old, diabetic male was admitted in ward 9 of Medicine Department with complaints of reduced urine output, fever, anorexia and swelling at left side of neck since 12 days. He was known to have diabetic kidney disease since 6 months and was on irregular medication with poor glycemic control. On examination, spherical shaped swelling, 3-4cm in diameter with well-defined border was found which was extending from lower border of mandible to upper border of thyroid cartilage. Sublingual lymphadenopathy was present. Oral status of the patient revealed presence of oral candidiasis with no dentures.

Laboratory investigations

His complete hemogram was Hb=8.1 gm/dl, WBC count 12000/µl (Neutrophil 80%, Lymphocyte 20%); platelet 4 lacs. The liver parameters were normal.

His blood urea and serum creatinine were 210 mg% and 6.2 mg% respectively. His random blood sugar was 320mg/dL. Widal test and Malarial parasite were negative. ECG and echocardiography, serum electrolytes were normal. Patient was negative for HIV and Hepatitis B. USG abdomen and pelvis showed bilateral chronic kidney disease. USG of neck revealed ill defined, hypoechoic lesion. Incision and drainage of the neck swelling was performed, and the pus was sent to Microbiology laboratory.

Microbiological investigations

Gram stain of pus showed plenty of pus cells and budding yeast cells but not bacteria and cultures on appropriate media remained negative. Heavy growth of white yeast was observed after 24h incubation at 370 C (Figure 1) on Sabouraud dextrose agar. On gram staining these isolates appeared as gram positive budding yeast cells (Figure 2).

Figure 1: Creamy, pasty colony of *candida* on SDA.

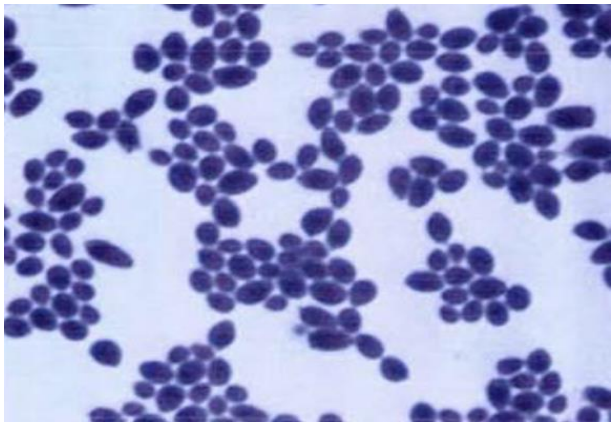

Figure 2: Gram positive budding yeast cells on gram staining.

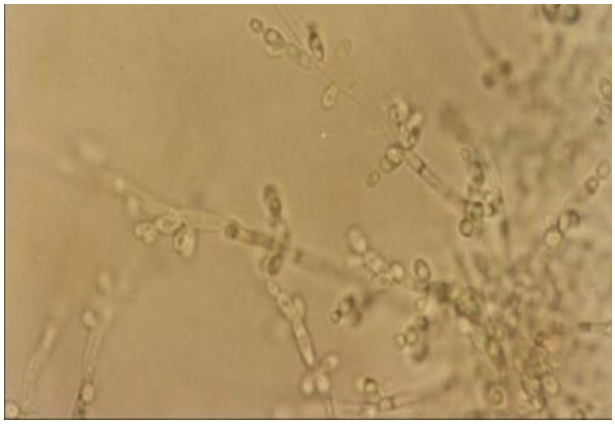

Figure 3: Morphology on corn meal agar under 40X objective.

Further identification was done by conventional as well as automated method (VITEK 2 Compact Biomerieux, India Pvt, Ltd). Conventional methods done were-germ tube test (Positive), morphology on Corn meal agar (septate pseudohyphae with clusters of round blastospores at the septa, suggestive of *C. albicans*) (Figure 3). VITEK 2 Compact identified the isolate as *Candida dubliniensis* with 99% probability. Based on the findings, the patient was started on intravenous fluconazole to which he responded.

DISCUSSION

Salivary gland infections with *Candida* is extremely rare and often an underlying malignant disease or immunocompromising condition is present. It is of special interest that the infection we described occurred in an immunocompetent patient who was on irregular medication with poor glycemic control. Studies like Marioni G et al, Stefanopoulas PK et al, Even-Tov E et al, Pujol F et al have described diabetes and renal insufficiency as the underlying disease in *candida* infection of salivary gland which is correlating with our study.[4-7]

Candida dubliniensis is a pathogenic yeast species that was first identified as a distinct taxon in 1995. Epidemiological studies have revealed that *Candida dubliniensis* is prevalent throughout the world and it is mainly associated with oral carriage and oropharyngeal infections in human immunodeficiency virus (HIV) infected and acquired immune deficiency syndrome (AIDS) patients.[8] *Candida dubliniensis* is rarely found in oral microflora of normal healthy individuals and majority of cases have been reported from blood cultures.[9]

CONCLUSION

However, the phenotypic characteristics of this organism shares the features with *Candida albicans* (producing germ tubes and chlamydospores) suggest that some *Candida dubliniensis* isolates may be misdiagnosed as *Candida albicans*. As our knowledge regarding this emerging pathogenic yeast increases and diagnostic tests are developed, prevention and better management of the disease will become possible.

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