International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Case Report

Primary Chest Wall Abscess Caused by Candida Tropicalis - A Rare Case at an Unusual Site

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Received: 17/07/2015 *Revised: 17/08/2015* *Accepted: 19/08/2015*

ABSTRACT

Chest-wall abscess may occur either as a primary infection or secondary to trauma or surgery of the thoracic wall. Subcutaneous Candidal abscess is a very rare infection even in immunosuppressed patients. Few cases have been reported due to break down of skin which occurs as abscess following bacterial cellulitis. Off late the incidence of Candida infections are found to be on the rise. Candida species often show hematogenous spread; however localized Candidal abscess without Candidal septicemia is a rare manifestation of Candidal infections.

Here we describe a rare case of chest-wall abscess caused by Candida tropicalis without Candidemia.

A male patient aged 56 years came with complaints of swelling and pain on the left mammary region since three months which was progressively increasing in size. Patient complained of, on and off fever since one month and discharge of pus from the swelling since two weeks. On local examination swelling was 10x10 cm in size, tender and cystic in consistency. Pus discharge was found on the summit of the swelling. Nipple was retracted. CT scan of the lesion showed a large heterogeneously enhancing lesion on the left anterior chest wall with obstruction of anterior ends of 3rd, 4th, 5th ribs.

Pus was aspirated from the abscess and sent for culture and sensitivity to our lab. Gram stain of the sample showed few WBC's and occasional gram positive budding yeast like cells. Culture yielded growth of Candida tropicalis. Later incision and drainage of the abscess was performed and tissue sample was subjected to culture which also yielded the growth of Candida tropicalis. Blood culture of the patient yielded no growth. Patient was treated with Fluconazole for which there was a positive response.

Conclusion: Candida species are usually considered as colonizers and not much importance will be given to it as pathogen when isolated in culture. However when we isolate Candida species, a repeat sample would help in confirming Candida species being a true pathogen. As Fluconazole is less toxic when compared to other anti-fungal agents, it could be preferred in treating Candidal infections.

Key Words: Candida, Chest wall abscess, Fluconazole, Subcutaneous infection.

INTRODUCTION

Chest wall abscess can occur either as a primary infection or secondary to trauma or surgeries of thoracic wall. Common microbes known to cause primary chest wall abscess according to English literature review includes Staphylococcus, Salmonella, Actinomyces and rarely

Candida species. [1] The incidence of infections due to Candida species is observed to be steadily increasing in past two to three decades particularly in immunocompromised individuals. [2-4] Candida species can cause infections ranging from simple muco-cutaneous lesions to dreaded invasive and life threatening infections with multi organ failure. [5-7]

Candidal infection of subcutaneous tissue is very rare manifestation of Candidal infections. Subcutaneous Candidal infection may result either from direct contact or inoculation injury or by hematogenous spread. Subcutaneous Candidal abscess is a very rare occurrence in absence of any apparent signs of disseminated or focal visceral disease. [8] Deep infections due to Candida rarely occur in intact host. [3] Amphotericin B and Fluconazole have been the mainstay in treating subcutaneous and deep Candidal infection. [9,10]

CASE REPORT

Here we describe a rare case of chest-wall abscess caused by Candida tropicalis without Candidemia. A male patient aged 56 years came to the surgery OPD with complaints of swelling and pain on the left mammary region since three months which was progressively increasing in size. Patient also complained of, on and off fever since one month and discharge of pus from the swelling since two weeks. On local examination swelling was 10x10 cm in size, tender and cystic in consistency. Pus discharge was found on the summit of the swelling. Nipple was retracted. CT scan of the lesion showed a large heterogeneously enhancing lesion on the left anterior chest wall with obstruction of anterior ends of 3^{rd}, 4^{th}, 5^{th} ribs.

Pus was aspirated from the abscess and sent for culture and sensitivity testing to our lab. Gram stain of the sample showed few WBC's and occasional gram positive budding yeast like cells. Pus was inoculated on to Blood agar, incubated at 37^0 C and Saboraud's dextrose agar (SDA) – incubated at 25^0 C for 24 hours. On Blood agar the colonies were 1-2 mm circular, smooth, white, opaque and non-hemolytic. On SDA colonies were off-white colored, dull and smooth. Gram staining of the isolate showed Gram positive budding yeast like cells.

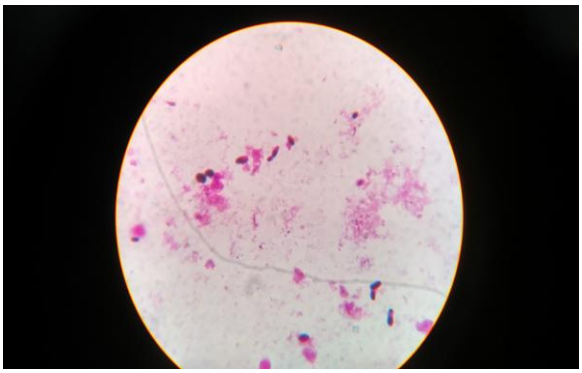

Image 1 – Gram stain of pus sample showing few WBCs and occasional Gram positive budding Yeast like cells.

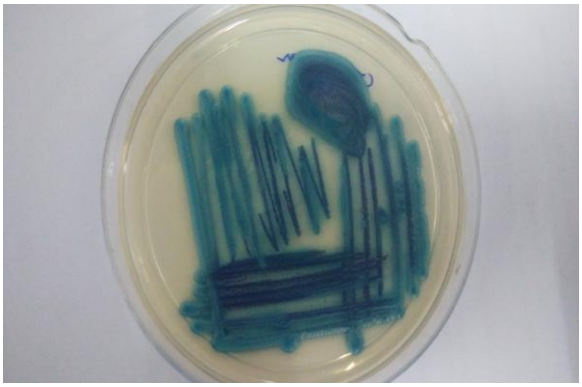

Image 2 – Candida tropicalis on CHROM agar.

The isolate did not show any germ tube formation. Thin pellicle was present on Sabourauds dextrose broth. The isolate assimilated glucose, maltose, sucrose, cellobiose, trehalose and xylose and fermented glucose, maltose and sucrose with acid and gas. On CHROM agar the colonies were dark bluish green and the isolate was sensitive to Fluconazole. With above test results, the isolate was identified as Candida tropicalis. Later incision and drainage of the abscess was performed and tissue sample

was subjected to culture which also yielded Candida tropicalis. Blood culture of the patient yielded no growth. Patient was treated with Fluconazole for which there was a positive response.

DISCUSSION

Candida species is widely spread out in environment and is a very common human commensal in Gastro intestinal tract, skin and female genital tract. [7] The incidence of Candidal infections is observed to be steadily increasing in past two to three decades particularly in immunocompromised individuals but hardly seen in immunocompetent hosts. Deep and subcutaneous Candidal infections are rarely seen in intact hosts, subcutaneous Candidal abscess being a rare manifestation of Candidal infections. [2-4] Subcutaneous Candidal infections can occur either by hematogenous spread or inoculation injury. Subcutaneous candidal abscess rarely occur in absence of Candidal visceral disease or Candidemia. [8] However subcutaneous Candidal abscess is a rare manifestation of Candidal infections in absence of disseminated Candidal diseases. [8]

Deep infections due to Candida species is hardly seen in intact hosts, however shows increase incidence in immunocompromised individuals. [8]

The commonest risk factors for invasive candidiasis include Neutropenia, Broad spectrum antibiotic therapy and any recent surgery. [7]

In spite of Candidal infections being rare they may present with clinical manifestations ranging from simple localized infections to life threatening infections accounting to multi-organ failure. [6] Among the Candida species Candida tropicalis may be held responsible for causing two thirds of subcutaneous and deep Candidiasis. [5]

Four criteria are necessary for diagnosing the systemic candidiasis which are as follows:

1. Culture positive for Candida
2. Suspicious clinical features
3. Presence of predisposing factors
4. Good response to antifungal therapy. [11]

On examination of the clinical specimen if other organisms are absent and abundant Candidal pseudohyphae are present, clinical suspicion of Invasive Candidiasis should be high. [7] Demonstration of candidemia may be suggestive of disseminated disease, but is not necessarily the evidence of pathogenicity. [7] The mere presence of pseudohyphae in the clinical specimen always indicates active replication of yeast at the site rather than just being the colonizer. [12] Presence of enormous Candidal budding cells and pseudohyphae in clinical samples along with fungemia and funguria will give a clear clue to disseminated Candidal infection. [7]

A yeast like fungus, Candida species once known to have limited pathogenic potential is recently known to cause dreaded infections like endocarditis, endophthalmitis and abscesses. [4]

According to the literature the incidence of Candidal infections has increased in extreme low birth weight infants in spite of availability of advanced neonatal care units. [4]

Amphotericin B remains the drug of choice and has been main stay in treating subcutaneous and deep Candidal infections, however Fluconazole may be used as an alternative as it is less toxic in comparison to Amphotericin B. Debridement of the infected tissue followed by Amphotericin B or Fluconazole therapy will give best result as far as patient recovery is considered. [9,10]

CONCLUSION

The growing chest wall mass should always be given more importance and promptly tried to identify the infectious agent even with least systemic signs. [1]

Our case deserves attention as soft tissue abscess due to Candida tropicalis is rarely reported and the pus as well as the tissue samples have yielded purely Candida tropicalis which suggests that it is a true pathogen. To the best of our knowledge soft tissue abscess due to Candida tropicalis in absence of Candidemia is hardly reported.

However, worsening of clinical symptoms in spite of adequate anti-bacterial therapy combined with history should make us suspect the possibility of fungal infection. Surgical intervention along with appropriate anti-fungal therapy would be the best approach to treat subcutaneous Candidal abscess. [4]

REFERENCES

1. Sakran W, Bisharat N. Primary chest wall abscess caused by Escherichia coli costochondritis. Am J Med Sci.2011 sep;342(3):241-6
2. Alieke G. Vonk et al. Treatment Of Intra Abdominal Abscess Caused by Candida albicans with Antifungal Agents and Recombinant Murine Granulocyte Colony-Stimulating Factor."Antimicrobial agents and chemotherapy". Dec 2003,pg 3688-3693
3. Daniel Tonetti. Candida albicans as the Sole Organism Cultured from a Peri rectal Abscess. Case reports in Infectious Diseases. Volume 2012, Article ID 913785, 3pages
4. Kecheng Jiang, Philbert Jones, Raja shekar. Severe Soft Tissue Abscess Caused by Candida krusei. Infect Dis clin pract 2006;14(3)166-167.
5. Ayugul Dogan Celik, Zerrin Yulugkural, Figen Kuloglu, Filiz Akata. Candida glabarata: Etiological agent of soft tissue abscess in a diabetic patient. Indian J Pathol Microbiol 2010;53(3), 590-591.
6. Merih Cetinkaya, Gokhan Buyukkale, Muge Payasli, Sibel Ozbek,Sultan Kavuncuoglu. An Unusual Cause Of Bilateral Scrotal abscess in a Preterm infant: Candida albicans. BRAZ J INFECT DIS.2013; 17(2)260-262
7. Prem Prakash Gupta, Dipti Agarwal, R Yadav. Lung abscess due to Pulmonary Candidiasis. Lung India 2006;23:160-2
8. Felipe Francisco TUON (1) & Antonio Carlos NICODEMO (1). Candida albicans SKIN ABSCESS. Rev. Inst. Med. trop. S. Paulo, sep-oct2006;48(5):301-302
9. Smit Kumar et al. A Rare Case Of Pancreatic Abscess due to Candida tropicalis. J Glob infect Dis oct-Dec 2011;3(4):396-398
10. Philip Keiser and Susan Keay. Candidal Pancreatic Abscesses: Report Of Two Cases and Review. JSTOR: Clinical Infectious Diseases, April 1992; 14(4):884-888
11. Ami- Hai E Rubin and Gideon G Alory. Candida albicans abscess Of Lung. Thorax 1977;32:373-376
12. O J Hensey, C. A. Hart and R W I Cooke. Candida albicans Skin Abscesses. Arch Dis Child. 1984 May; 59(5):479-480.

How to cite this article: Banashankari GS, Rudresh HK, Sreeja S. Primary chest wall abscess caused by candida tropicalis- a rare case at an unusual site. Int J Health Sci Res. 2015; 5(9):613-616.

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