



## Case report

### A Case Study on Subcutaneous zygomycosis with ulcer

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#### ABSTRACT

##### Keywords

Subcutaneous  
phycomycosis;  
*Basidiobolus*  
*ranarum*;

Subcutaneous mycosis due to *Basidiobolus ranarum* is endemic in south India. We hereby report a case of subcutaneous zygomycosis in a 6 months old female child who presented with a painless, non-tender swelling progressed to ulcer on the thigh.

#### Introduction

A 6 month female child was brought to pediatric department with h/o gradually increasing painless ulcerated swelling over the left thigh. There was history of insect bite 4 months ago. The swelling was gradually increasing since then and progressed to ulcer formation covered by eschar.

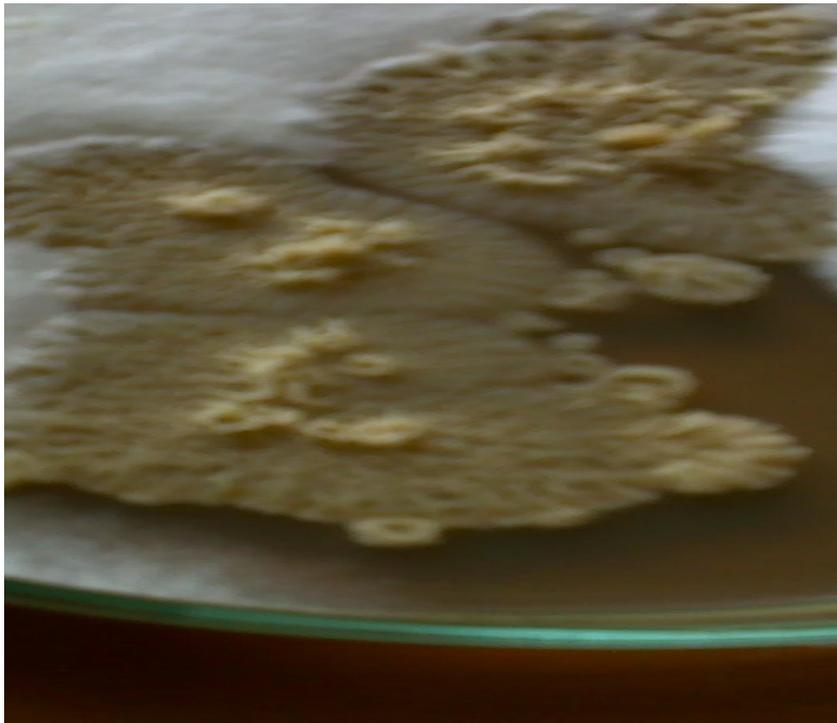
No discharge was observed. On cutaneous examination there was a single firm, well defined swelling with ulceration having insinuating edges covered by eschar of size 8 x 4cms. The swelling with ulcer was freely mobile over the underlying structure. There was an indurated small satellite nodule proximal to the ulcer (Figure 1).

Routine investigations were normal and x ray left thigh showed soft tissue swelling. Tests for HIV negative, swabs were sent for bacterial and fungal culture. Bacterial culture was sterile and a 10% potassium hydroxide wet mount revealed broad, irregular aseptate hyphae. Growth on Sabouraud's dextrose agar after 3 days of incubation at 25 °C showed creamy brown, centrally heaped up, radially folded colonies with satellite colonies on the periphery (Figure 2). On performing lactophenol cotton blue wet mount of the fungal culture, aseptate hyphae and numerous smooth walled zygospores with characteristic beaks (Figure.3) were observed, thus confirming the diagnosis of the fungus as *Basidiobolus ranarum*.

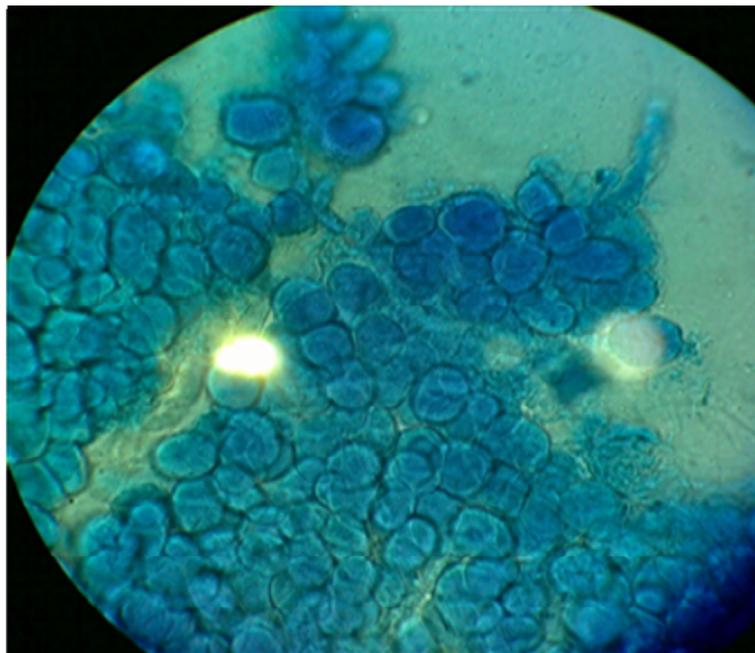
**Figure.1** Non tender swelling with ulceration on the left thigh with a proximal satellite lesion.



**Figure.2** Creamy brown, rugosed centrally heaped up colonies with satellite small colonies on the periphery.



**Figure.3** Lactophenol cotton blue wet mount showing abundant smooth walled yeast cells



Patient was started with saturated solution of potassium iodide (SSKI) 3 drops thrice daily. Gradually the dose is escalated to 8 drops thrice daily for 3 weeks with strict monitoring of thyroid function and symptoms of iodism.

Subcutaneous phycomycosis was first described in Indonesia in 1956. (Burkitt *et al.*, 1964). Cases due to entomophthoromycosis have been reported in this particular part of Eluru (Kiran M Chokka and Sridhar R Reddy, 2010). We are presenting a culture proven case of basidiobolomycosis.

*Basidiobolus ranarum* belongs to phylum Zygomycota, order Entomophthorales and the genus Basidiobolus. All cases of human disease are caused by *Basidiobolus ranarum*. The mode of transmission is not confirmed but assumed to be minor trauma or insect bite (Cameroon, 1990).

It is a granulomatous infection of the skin and subcutaneous tissues characterized by the formation of firm and non-tender

swellings, generally on the extremities, trunk and rarely other parts of the body. The disease usually occurs in children, less often in adolescents and rarely in adults (Gugnani, 1999).

The infection is characterized by a hardened nodule which expands and spreads locally. Although the nodules will eventually ulcerate the overlying skin, dissemination usually does not occur (Chandler and Watts, 1987). The present case had an indurated swelling with large ulcer covered by eschar but no dissemination has been observed.

While the direct examination may suggest the diagnosis, culture remains the “gold standard” for diagnosis. Most patients with Basidiobolomycosis respond very well to oral potassium iodide therapy as also to azoles particularly itraconazole (Sujatha *et al.*, 2003). In the present case also the patient responded well to potassium iodide and the swelling was completely resolved after one month of treatment.

To summarize, subcutaneous phycomycosis is a chronic fungal infection of the children, with a few reports from south India. Culture on Sabouraud's dextrose agar and lactophenol cotton blue wet mount are confirmatory.

“Thus basidiobolomycosis is a rare condition, we have to consider this in cases of chronic non healing painless indurated ulcers which doesn't involve underlying fascia and not responding to treatment, and necessary investigations like KOH and fungal culture should be done to confirm the diagnosis”

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