

**ZYGOMYCOSIS OF THE SCROTUM- A RARE CASE REPORT****Dr. Padam Kumar M<sup>1</sup>, Dr. Sruthy S. R.<sup>1</sup>, Dr. Deepthi Ravi<sup>2</sup> and Dr. Jayakar Thomas\*<sup>3</sup>**<sup>1</sup>Junior Residents, Department of Dermatology, Sree Balaji Medical College, and Hospital, Chrompet, Chennai.<sup>2</sup>Senior Resident, Department of Dermatology, Sree Balaji Medical College, and Hospital, Chrompet, Chennai.<sup>3</sup>Professor and HOD, Department of Dermatology, Sree Balaji Medical College, and Hospital, Chrompet, Chennai.**\*Corresponding Author: Dr. Jayakar Thomas**

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**ABSTRACT**

Subcutaneous zygomycosis is a localized, chronic, woody swelling of the skin, uncommonly seen in tropical countries. Here in we report a case of zygomycosis of the scrotum in a 50 years old man, who presented with a lump on the scrotum. Histopathological examination and culture for fungi were helpful in establishing the diagnosis.

**KEYWORDS:** Zygomycosis, basidiobolomycosis, Scrotum.**INTRODUCTION**

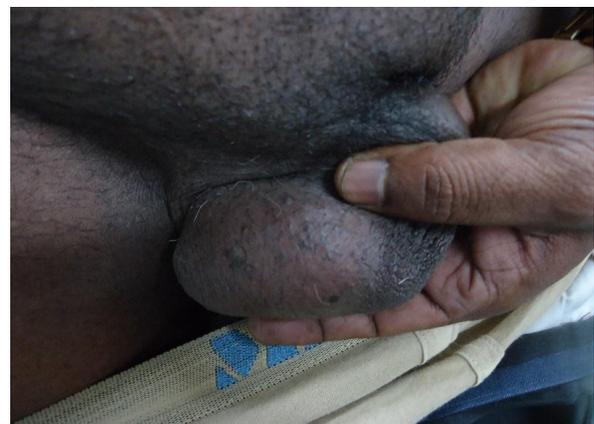
Subcutaneous zygomycosis also known as Entomophthoromycosis is the second most common deep mycosis after mycetoma in south India. It is caused by a group of fungi belonging to phylum Zygomycota of order Entomophthorales having two genera Basidiobolus and Conidiobolus. The species *Basidiobolus ranarum* and *Conidiobolus coronatus* are the two most common opportunistic pathogens of this group causing basidiobolomycosis and conidiobolomycosis respectively.<sup>[1]</sup> All the fungi belonging to this class are saprophytes and are commonly found in soil, decaying organic vegetation, tropical rain forests and in gastrointestinal tracts of frogs and toads. Direct contact with the spores in the soil or decaying organic material or accidental inoculation by inconspicuous injuries such as thorn pricks, insect bites and contaminated injection-needles may cause human infections.

**CASE REPORT**

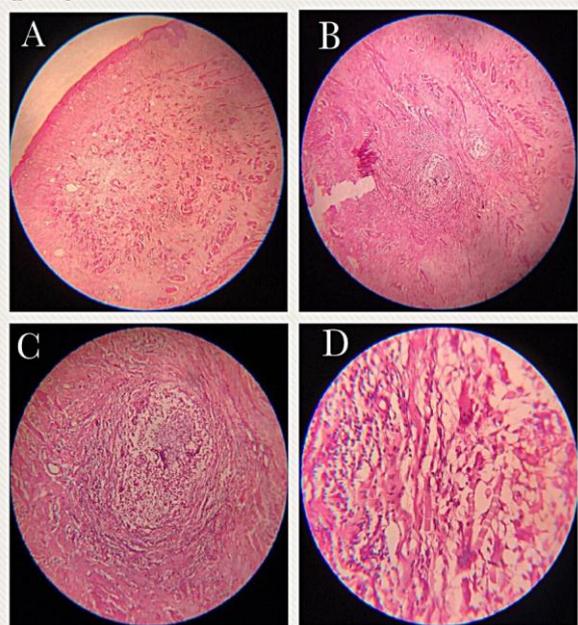
A 50 years old male, farmer by occupation, came to our OPD with complaints of relatively asymptomatic progressive swelling over scrotum of 5 months duration. On examination, a solitary, 4 x 5 cm, well defined, plaque was noted over the scrotum. On palpation, no warmth or tenderness was elicited. The plaque was firm in consistency and freely mobile over underlying testicles. The overlying skin was not pinchable and appeared to be stretched out with loss of normal rugosity. Follicular prominence and dilated veins were prominent. [Figure 1] No ulceration, scars, sinuses and significant regional lymph nodes noted. The testis, epididymis, cord

structures and the penis appeared to be normal. Systemic examination was normal.

Blood investigations like complete blood counts, fasting and postprandial glucose levels and serology for syphilis and HIV were negative. Incision biopsy was done and revealed atrophy of epidermis with an increase in deposition of collagen bundles in the dermis in a disorganised fashion. Numerous granulomatous foci were seen in deep dermis and subcutis. In the centre of granulomas, multiple broad aseptate hyphae were seen surrounded by a cluster of epithelioid cells, lymphohistiocytes and plasma cells. The biopsied tissue was subjected to fungal culture and was confirmatory to our diagnosis of basidiobolomycosis. The patient was started on itraconazole 100 mg twice daily and is under the second week follow up.



**Figure 1: Clinical photograph showing the well-defined indurated scrotal plaque with loss of normal rugosity.**



**Figure 2: A. Photomicrograph on scanning view reveals epidermal atrophy and haphazardly arranged collagen bundles in the dermis. B. Photomicrograph on scanning view reveals numerous granulomas in the deep dermis. C. On low power (10x), shows the fungal filaments in the centre of granuloma surrounded by lymphohistiocytes and plasma cells. D. On high power (40x), shows broad aseptate hyphae branching at right angles.**

## DISCUSSION

Entomophthoromycosis is more commonly seen in children or young adults generally, with a good host immune status. They are more commonly seen in males and usually affects the exposed surfaces of the skin.<sup>[2]</sup> Although they can involve any body surface, the face and paranasal sinuses are the sites of predilection for *Conidiobolus coronatus* and the proximal limbs and limb girdles for *Basidiobolus ranarum*.

Risk factors include surgical wounding, burn injuries, soiled trauma, bony fractures, indwelling intravenous lines, insect bites, cactus spine injuries, abrasions, lacerations, contaminated adhesive tapes and probably many more as a result of break in the skin's integrity with a direct contact to the zygospores.<sup>[2]</sup>

Clinically, the basidiobolomycosis presents with involvement of thighs, and buttocks, in a 'bathing suit' distribution. It manifests as slowly evolving, painless, well circumscribed, firm to hard subcutaneous plaque at the site of primary inoculation. The progression is slow but may involve an entire part of a limb. The surface is usually smooth, sometimes develops necrosis and ulceration. Satellite lesions may develop at the advancing margins. The overlying skin appears tense, sometimes

oedematous, scaly, pigmented or normal. The spread is contiguous and very rarely haematogenous or lymphatic seedling occurs. Extension to underlying muscles and viscera can occur. Fournier's gangrene like lesions over scrotum and adjacent thigh and gluteal region is reported.<sup>[3]</sup> Cutaneous complications are rare and include persistent localised lymphedema. Systemic involvement of gastrointestinal tract, paranasal sinuses, brain, lungs, kidneys, uterus and bladder may prove to be fatal if misdiagnosed and or untreated.

Diagnosis is usually confirmed by laboratory methods. Clinical mimickers include chronic abscesses, cellulitis, Filariasis, soft-tissue sarcomas, testicular tumours, subcutaneous lymphomas, pseudo-lymphomas and Fournier's gangrene.<sup>[3,4]</sup>

Histopathological examination is highly contributory to arrive at the diagnosis. Histologically, dense mixed inflammatory cells comprising of histiocytes, eosinophils, neutrophils, lymphocytes, plasma cells and giant cells with a tendency towards formation of granulomas are seen in the deep dermis. Splendore-Hoepli phenomenon around the hyphae can be seen. Fungal hyphae can be demonstrated better with special stains like Periodic Acid Schiff (PAS) and Gomori-Gorcott stain as broad aseptate hyphae branching at right angles within granulomas.<sup>[5,6]</sup>

Other laboratory techniques include subjecting tissue fragments or scrapings or aspirated material from the lesion for KOH mount or lacto phenol cotton blue mount. A culture of biopsied tissue in Sabouraud's dextrose agar without cycloheximide or chloramphenicol at 30<sup>o</sup> - 37<sup>o</sup> C can be helpful in confirming the diagnosis. The *Basidiobolus* grows rapidly at 30<sup>o</sup> C. The colonies are flat and furrowed, yellowish to grey on the surface and pale on the reverse with a waxy texture and a musty odour.<sup>[6]</sup>

The standard treatment is with the saturated solution of potassium iodide (KI) and itraconazole. Other antifungals reported to be effective are ketoconazole, amphotericin B, terbinafine, voriconazole, miconazole and cotrimoxazole.<sup>[2,6]</sup>

## CONCLUSION

This case is presented for its rarity. It also emphasizes that presence of any firm asymptomatic plaque of a long duration warrants a search for a deep mycosis specially zygomycosis.

## ACKNOWLEDGEMENT

None.

## CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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