

Case Report

Squamous Cell Carcinoma as Lethal Complication of Fungal Granuloma: A Case Report

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ABSTRACT

Fungal granuloma and squamous cell carcinoma may occur in the same patient. As both lesions may present similar clinical features, the diagnosis is sometimes challenging. This paper describes a case of 54 year old male with fungal granuloma in marginal area on medial aspect of left ankle and development of squamous cell carcinoma. PAS stain showed positivity.

Keywords: Squamous cell carcinoma; Fungal granuloma.

INTRODUCTION

Granulomatous infection caused by fungus is a rare infection worldwide. The association between cancer and fungal granuloma has been recognized since 1933, but its incidence has been debatable since that time.⁽¹⁾ The usual complications are secondary infections, lymphedema and elephantiasis. In chronic lesions, it has been documented as malignancy.⁽²⁾ There is an increase in Th₂ type immune response with deficiencies of macrophages and natural-killer lymphocyte activity as a result of transitory impairment of host response to fungal cell antigens. This leads to a large spectrum of clinical presentations including skin and subcutaneous tissue in the lower extremities and feet, mucous membrane, lymph nodes and visceral organ involvement.^(1,2) Any possibility of a

definitive cure is limited to cases in which complete surgical removal of the lesion is feasible, although there is a risk of recurrence of the lesions. Most patients seek medical attention years after the onset of the disease, and by then the extent of the lesions makes surgical treatment impractical.⁽³⁾

CASE REPORT

In this case report, we present a 50 year old male from Kannad District of Aurangabad, Maharashtra State, India with complaints of growth at medial aspect of left ankle. There was a previous history of trauma by thorn prick on the left ankle 30 years back. Patient also gave history of tobacco chewing and alcohol abuse. There was no history of diabetes mellitus, hypertension or any other major illness. The growth was irregular in shape. A diagnosis

of ? foreign body granuloma was made clinically. High frequency ultrasonography (USG) was suggestive of benign soft tissue tumor. Wide excision of mass was done

under local anesthesia. The excised specimen was hard, grey-white to yellow and measured 4x2x0.5cm (fig1).



Fig 1: specimen of fungal granuloma with squamous cell carcinoma showing fibro-fatty appearance and greyish-white areas.



Fig 2: Cut section of fungal granuloma with squamous cell carcinoma (multiple grey tan areas).

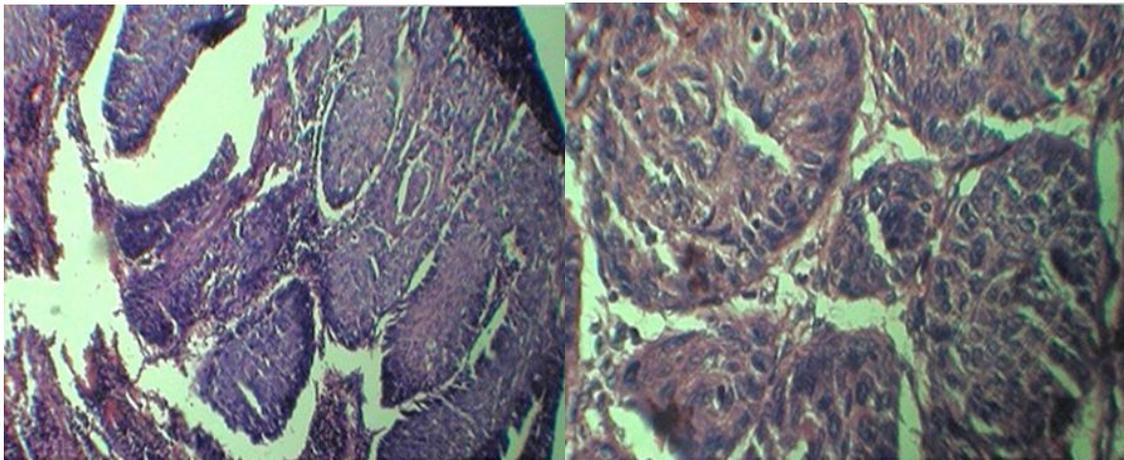


Fig 3: H & Ex10 & 45. Microscopy showing squamous cell carcinoma made up of polyhedral cells with large hyperchromatic nuclei arranged in groups and islands.

Cut section was yellowish with multiple grey tan areas (fig2). Microscopic analysis revealed tumor mass from margin of the lesion made up of polyhedral cells with large hyperchromatic nuclei arranged in groups and islands. Keratin pearls were present, contributing to the diagnosis of squamous cell carcinoma (fig3). Another section showed fibromuscular and

collagenous stroma amidst which granuloma made up of centrally placed fungal granule surrounded by fibrino-purulent exudate consisting of neutrophils, eosinophils and lymphocytes (fig4). Thus fungal granuloma with squamous cell carcinoma in margin was diagnosed. Special stain was performed which showed PAS-positivity (Fig5).

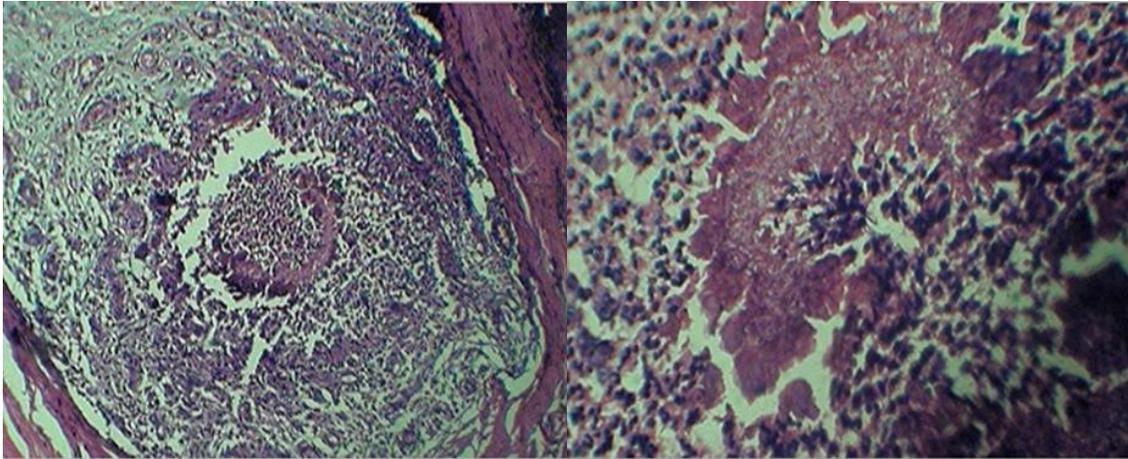


Fig 4: H & Ex10 & 45. Histological features of fungal granuloma showing granuloma made up of centrally placed fungal granule surrounded by fibrino-purulent exudate consisting of neutrophils, eosinophils & lymphocytes.--+

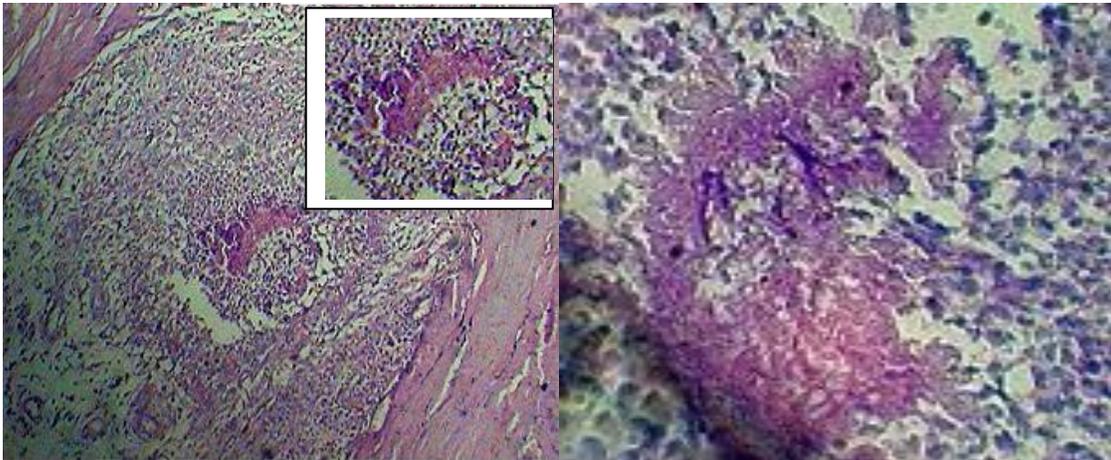


Fig 5: Periodic acid Schiff stain x10 & 45: PAS-positive with fungal hyphae seen.

DISCUSSION

Fungal infections are common in tropical countries and can have an important impact on public health.⁽⁴⁾ In 1933, Rabello Filho was the first to describe an association between fungal infection (paracoccidioidomycosis) and neoplasia. Later on, a number of mycotic and cancer associated sites were described. Most of the malignant tumors were squamous cell carcinoma and occurred in the same region or in adjacent tissues involved in the fungus infection.⁽¹⁾ The micro-organisms penetrate through a skin trauma, which causes chronic infection which leads to chronic irritation and inflammation. Chronicity leads to development of squamous cell carcinoma.

This skin disease is usually unilateral and asymmetric, affects the lower extremities (54-80%), rarely spreads (2%).⁽²⁾ Other sites of injury may be face, neck, back, buttocks, and rarely, the mucous membranes. The growth is always very slow and insidious. After many years, some lesions evolve into the typical pattern of the disease: cauliflower-like masses, nodules, and sometimes, large vegetations.⁽⁴⁾

Course of lesion is chronic, slowly progressive or asymptomatic, rarely blood and lymphatic spread. Among the known complications, associated are found infections, which lead to lymphedema and elephantiasis.

There are reports that a prolonged evolution and the presence of chronic inflammation and fibrous scars may predispose to malignant degeneration, such as malignant melanoma and squamous cell carcinoma.⁽²⁾

Treatment is very difficult and sometimes ineffective. In advanced cases, is recommended to medical and surgical treatment, including Mohs micrographic surgery. The development of malignancies from chronic lesions of fungal infections is infrequent, since only 17 cases were documented throughout the world. Undoubtedly, the conditions in the affected tissue with chronic inflammation and repair processes are important risk factors. The importance of histological follow-up has been noted in order to timely diagnose tumor development, as they are more aggressive. This would involve monitoring and timely treatment and decreased mortality. ⁽²⁾ Disabled or deformed limbs may require amputation. ⁽⁴⁾

CONCLUSION

The synchronous occurrence of fungal granuloma and squamous cell carcinoma may be coincidental or squamous cell carcinoma may develop as a complication of fungal infection. Granulomatous infections caused by fungus are a rare infection worldwide. The usual complications are secondary infections,

lymphedema and elephantiasis. In chronic lesions, if not treated properly, it may lead to malignancy.

Thus importance of histological follow-up has been noted in order to timely diagnose tumor development. This would involve monitoring and timely treatment and decreased mortality.

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