

Sinonasal carcinoma masquerading as fungal sinusitis

Joan Felicita Samson, V. Suja, Abdul K. Samad, Anuja Elizabeth George, S. Sankar*

Departments of Dermatology and Venereology, *Pathology, Medical College, Thiruvananthapuram, Kerala, India.

Address for correspondence: Dr. Joan Felicita Samson, Salom T.C 13/1454, Chalakuzhi Road, Medical College, Thiruvananthapuram - 695 011, Kerala, India. E-mail: gklibu@gmail.com

ABSTRACT

A 26-year-old man presented with swelling of his face and nose of three months duration. He had multiple hyperpigmented, hyperkeratotic plaques over the swelling, of one-month duration and an erythematous indurated plaque below the left nostril for two weeks. Based on a biopsy taken from the antral mass with special stain for fungus, he was treated as fungal sinusitis with intravenous amphotericin-B, but the lesion did not regress. Later a skin biopsy from the indurated lesion showed moderately differentiated squamous cell carcinoma. A diagnosis of sinonasal carcinoma was made and chemotherapy was started.

Key Words: Fungal sinusitis, Sinonasal carcinoma, Squamous cell carcinoma

INTRODUCTION

Sinonasal carcinomas are unusual tumors causing <1% of cancer deaths in the US. They have a left-sided preponderance and are often diagnosed late when extensive bone destruction has already occurred.^[1] Several histopathological types are described, the most common type being squamous cell carcinoma with varying degrees of keratinization. Treatment is a combination of surgery and radiotherapy; the five-year survival rate is about 40%.^[2]

CASE REPORT

A 26-year-old man, who was a weaver, was undergoing treatment from the otolaryngology department for swelling of the left side of his face and nose of three months duration, with multiple blackish lesions over the swelling for the last one month and a reddish raised lesion below the left nostril since 15 days

[Figure 1]. There was no history of smoking. Rhinoscopy had showed cheesy material in the left nasal cavity and clear fluid in the right nasal cavity. Ophthalmological examination revealed chemosis, ophthalmoplegia and left lateral rectus palsy. A computed tomography scan of the head showed a soft tissue mass within the maxillary antrum with compression of the globe of the left eye. Repeated biopsies and cultures from the maxillary antrum showed heavy colonization of *Aspergillus* and *Candida* species [Figure 2]. Hence, he was treated with intravenous amphotericin B (30 mg/day) followed by fluconazole (150 mg/day) in the Department of Otolaryngology. Since he showed no significant improvement after three weeks of continuous treatment, he was referred to the Department of Dermatology.

On examination, he was looking ill and lethargic. He had a large irregular, eroded and crusted plaque over

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Figure 1: Erythematous plaques with edema and swelling of the left side of the nose and cheek

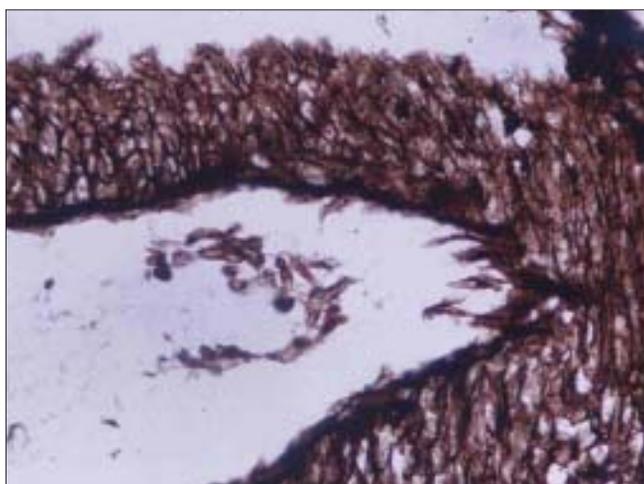


Figure 2: Methenamine silver stain showing fungal elements within the blood vessel (x400)

the bridge and left side of the nose, extending to the left upper and lower eyelids with edema and exudate, obliterating the left palpebral fissure. Multiple discrete keratotic papules and plaques were present on the forehead, below both eyes and on the left cheek. An irregular erythematous indurated plaque extended from the left nostril to the left side of the upper lip and cheek. There was edema on the left half of the nose and cheek. There was no regional or generalized lymph node enlargement. Considering the possibility of rhinocerebral phycomycosis, a deep biopsy was taken from the indurated plaque below the left nostril.

Histopathology revealed nests of malignant squamous cells and keratin pearls consistent with moderately differentiated squamous cell carcinoma

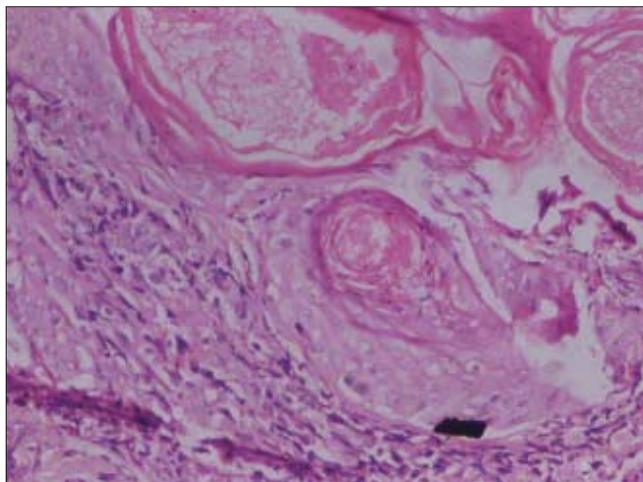


Figure 3: Hematoxylin and eosin stain showing moderately differentiated squamous cell carcinoma with keratin pearls (x400)

[Figure 3]. A final diagnosis of sinonasal squamous cell carcinoma arising from the maxillary antrum was made.

The patient was investigated for underlying immunosuppression. The blood glucose level was normal and ELISA test for HIV was negative. Other investigations including the blood picture, liver and renal function tests, chest X-ray and ultrasound scan of the abdomen, were within normal limits. The patient was prepared for chemotherapy with 5-fluorouracil and cisplatin by the oncologist, but the left maxilla collapsed before it could be started, leading to total disfigurement of the left side of the face. Chemotherapy was subsequently started, but after the first course of therapy the patient did not follow up.

DISCUSSION

Our patient primarily had sinonasal carcinoma; the associated immunosuppression predisposed him to develop aspergillosis with vessel invasion. The diagnosis of carcinoma was missed because superficial biopsies and cultures were taken from the maxillary antrum, which harbored *Aspergillus* species. The infection probably resolved with three weeks of treatment with antifungal agents, but when there was no significant clinical improvement after treatment, a deep biopsy led to the diagnosis. *Aspergillus* and mucor are the fungal groups most commonly

reported to cause vessel invasive lesions. Cutaneous lesions caused by aspergillus may be either primary or secondary from hematogenous dissemination.^[3] Rarely, rhinocerebral aspergillosis may ulcerate to the mouth, generally in the severely immunocompromised.^[4]

Sinonasal carcinomas are rare malignancies, with an increased incidence in males. They commonly affect the left side, as in our patient. An increased incidence is seen in certain occupations like leather tanning, carpentry and textile industry (our patient was a weaver) and in cigarette smokers.^[5-8] An increase incidence is also seen in whom Thorotrast[®] contrast medium was used for radiographic study of the antrum.^[8] Tumors of the maxillary sinus can spread to the alveolar process, gingivobuccal sulcus, soft tissues of the cheek, nasal cavity, hard palate and orbit.^[1] Their usual presentations are as sinusitis, headache and diplopia from orbital invasion, which delay diagnosis if not further investigated. Intracranial extension is present in one-third of cases at the time of diagnosis.^[2] It is generally a fatal malignancy with a rapid downhill course and a poor prognosis. The commonest histopathological type is squamous cell carcinoma, which has the best prognosis; others are cylindrical (transitional) cell carcinoma, adenocarcinoma, verrucous carcinoma, basaloid squamous cell carcinoma, sarcomatoid carcinoma, small cell neuroendocrine carcinoma and undifferentiated (anaplastic) carcinoma.^[1] Up to Stage III of the disease, surgical resection followed by postoperative radiotherapy is preferred, but in Stage IV and recurrent cases, high-dose radiation and neoadjuvant chemotherapy are used as palliative therapy.^[9-11]

This case is reported because of its rarity and the fact that it masqueraded as an entirely different condition. Such a presentation warrants careful clinical evaluation and a deep biopsy of evolving lesions without apparent secondary changes or infections.

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