

Inflammatory pruritic nodules and plaques on the face

A 31-year-old male schoolteacher presented with mildly pruritic erythematous crusted plaques and nodules studded with pustules on chin and left malar region of 20 days duration [Figures 1-2]. He complained of increased itching and burning sensation after application of soap, aftershave lotion and perfume. He was not using any other cosmetic. He had no previous history of atopy, drug allergy, photosensitivity or any systemic complaints. He occasionally visited the barber's shop for shaving his beard. There were no pets at home.

Investigations done included skin biopsy for histopathological examination, including special stain [Figure 3]. Patch testing including that with plant allergens gave a negative result. Gram staining of the discharge from pustules did not reveal any bacteria and swab for bacterial culture and sensitivity taken from the pustules did not reveal any growth.

WHAT IS YOUR DIAGNOSIS?



Figure 1: Inflammatory nodules and plaques with superficial crusting and oozing on beard region

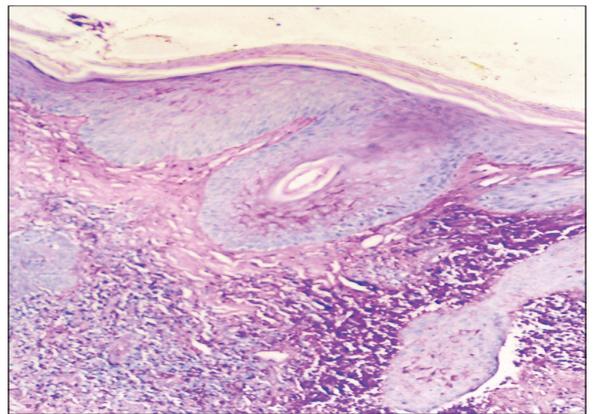


Figure 3: Skin biopsy with special staining (x 400)

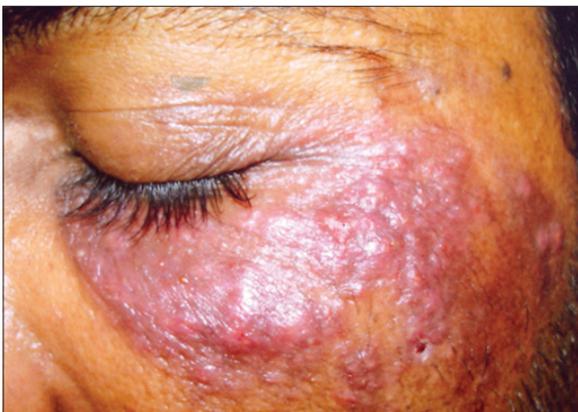


Figure 2: Erythematous nodules and plaques over left malar area

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Figure 4: Fluffy white growth of *Trichophyton mentagrophytes* in SDA. (Left) Positive urease test (Right)



Figure 5: Reduction in size of papules and nodules in beard area after 2 weeks of itraconazole therapy



Figure 6: Marked resolution of malar lesions after treatment

Diagnosis: Tinea barbae

DISCUSSION

Tinea barbae is a dermatophytosis of facial terminal hair of men, commonly seen in farmers, in rural areas and in those in contact with infected animals, especially in areas with

high temperature and humidity. In the past, it was frequently transmitted by barbers who used unsanitary razors- the so-called barber's itch. Causative organisms include both zoophilic and anthropophilic dermatophytes, which release several enzymes, including keratinases which help them to invade the epidermis. In tinea barbae, hair and hair follicles are invaded by fungi, producing an inflammatory response. Tinea barbae may present in three forms- inflammatory, sycosiform or circinate.^[1]

Inflammatory tinea barbae is caused primarily by zoophilic dermatophytes and presents as solitary or multiple plaques or nodules; localized to the chin, cheeks or neck; involvement of the upper lip is rare. The characteristic lesion is an inflammatory reddish nodule with pustules and draining sinuses on the surface. Hair are loose or broken and depilation is easy and painless. Pus-filled whitish masses involve the hair root and follicle. Over time, the surface of the indurated nodule is covered by exudate and crust. Noninflammatory superficial tinea barbae is caused by anthropophilic dermatophytes and resembles common tinea corporis or bacterial folliculitis. Typically, erythematous patches show an active border composed of papules, vesicles and/or crusts, the so-called circinate type. Hair are loose or broken next to the skin or they plug the hair follicle. This variety represents a chronic variant of tinea barbae. In the sycosiform variety, small follicular pustules are observed. Complications of tinea barbae include secondary bacterial infection and permanent scarring alopecia following resolution of inflammatory plaques and nodules.

Tinea barbae may mimic sycosis barbae, contact dermatitis, acneiform dermatitis etc. and thus pose a diagnostic problem.^[1,2] Mycologic examination forms the basis of diagnosis. Procedures include direct microscopy, culture and a Wood's lamp examination in certain cases. Biopsy specimens occasionally may be required to diagnose tinea barbae.^[2,3] Biopsy shows folliculitis and perifolliculitis with a mixed cellular infiltrate and spongiosis within the follicular epithelium. Lymphocytes or neutrophils are seen within the follicular epithelium. Periodic acid-Schiff stain (PAS) is recommended to clearly visualize fungal elements. Arthroconidia and/or hyphae may be evident within the hair shaft and follicle. An inflammatory infiltrate is present in the dermis, which in chronic lesions may contain giant cells.

Tinea barbae is usually treated with specific systemic antifungals, griseofulvin (1 g/ day). Newer antifungals used include terbinafine (250 mg/day), itraconazole (400 mg/day) and fluconazole (150 mg/week). All antifungals are used for

periods of two to four weeks depending upon the clinical response.^[1,2,4]

In our patient, a differential diagnosis of allergic contact dermatitis and sycosis barbae had been considered. Patch test was negative and he had responded partially to oral and topical antibiotics. KOH mount (20% KOH) of the hair from the affected area showed ectothrix type of invasion. The diagnosis was further clinched by punch biopsy from a plaque lesion on the malar area, which showed superficial dermatophytosis with PAS stain. Another biopsy specimen sent for fungal culture in Sabouraud's dextrose agar (SDA) showed white, granular growth in the form of concentric circles after 10 days. *Trichophyton mentagrophytes* was isolated from the SDA tubes [Figure 4]. Christensen's urease medium showed urease production [Figure 4]. Hair-perforation test showed wedge-shaped perforations.

With this revised diagnosis of tinea barbae, the patient was put on itraconazole 400 mg per day. There was a dramatic

improvement within two weeks of treatment [Figures 5-6].

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