A Rare Case of Coinfection with White Piedra and Pediculosis Capitis

Sir,

A 30-year-old Muslim lady presented with itching and "dirt" sticking to her hair for the last 3–4 months. She had long and dense hair and used to shampoo thrice a week. She frequently used to apply coconut hair oil and had a habit of tying her hair into a braid before drying. Family history was not contributory.

On scalp hair examination, there were multiple white-to-brownish, firm-to-hard, 2–3 mm sized nodules distributed at irregular interval and encircling the hair shaft completely [Figure 1]. The nodules could not be slid over the hair shaft. Moreover, structures resembling nits were seen in the retroauricular area. Hair pull test and tug test were negative. Scalp was otherwise normal with no signs of inflammation. The other hair bearing sites of the body were normal. Rest of the cutaneous and systemic examination including lymph node examination was normal. The differential diagnosis of pediculosis, piedra, keratin pilar cast, and trichoblastosis were kept.

Wood's lamp examination showed no fluorescence. On direct microscopy of the affected hair, brownish concretions forming a collar around hair shaft were seen. On 10% KOH digestion, fungal spores were visible at the edge of the nodules [Figure 2a]. In addition, empty nits were seen in a few hair [Figure 2b]. Culture of the concretions on Sabouraud's dextrose agar showed white to cream-colored, wrinkled cerebriform colonies on day 4 [Figure 3a]. Lactophenol cotton blue mount of the isolate revealed rectangular arthrospore [Figure 3b]. Urease test was positive [Figure 3c]. These findings collectively confirmed the isolate to be *Trichosporon*, the causative agent of white piedra. Diagnosis of mixed infection with white piedra and pediculosis capitis was made. As cutting of hair was not acceptable to the patient, she was prescribed 1% permethrin rinse and topical ketoconazole shampoo and was advised proper hair care management. Though pediculosis infestation cleared, there was only little improvement in piedra after 3 weeks. Patient was then prescribed oral itraconazole 100 mg per day, which resulted in significant improvement after 10 weeks of continuous therapy.

White piedra is a rare, asymptomatic, superficial fungal infection of the hair shaft caused by *Trichosporon beigelii*, now known as T. asahii.[1] It presents as nodules of variable hardness stuck to the hair shaft, which represent a compact mass of fungal hyphae and spores. As temperate and tropical climates[1] favor the growth of the causative fungus, most of the cases from India are from southern region,[2] with isolated reports from other areas.[3,4]

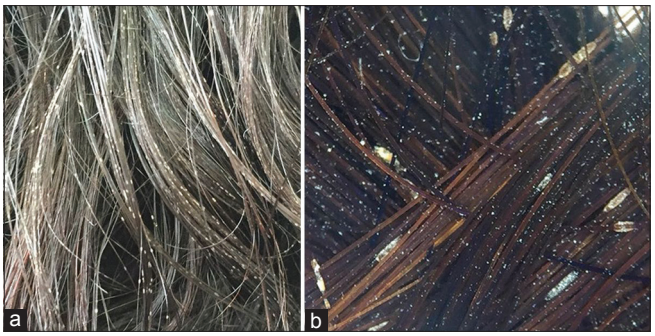

Figure 1: (a) White-brown nodules on hair; (b) Dermoscopic view of the affected hair (Dermlite, ×10)

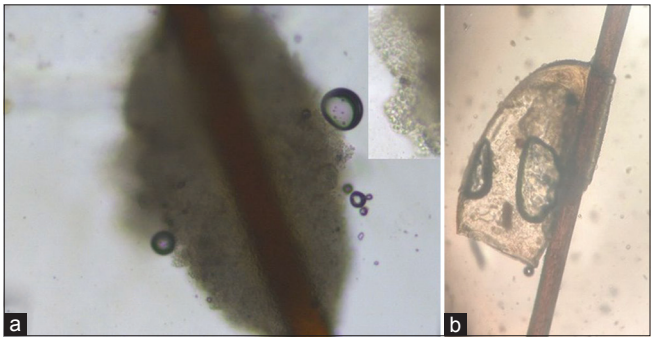

Figure 2: (a) Brownish nodules surrounding the hair shaft with fungal spores seen at periphery (inset) on 10% KOH (×100); (b) Nit seen on hair from retroauricular area (×100)

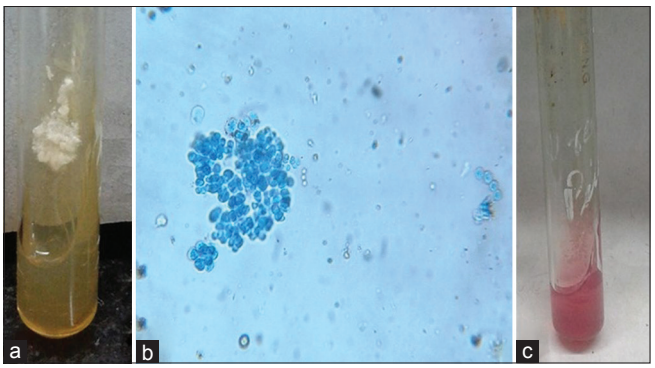

Figure 3: (a) Creamy white wrinkled cerebriform colony on Sabouraud's dextrose agar; (b) Fungal arthrospore seen on Lactophenol cotton blue (×400); (c) Pink color on urease test indicating positive reaction

Trichosporon is a saprophytic yeast. Person to person transmission has been suggested but is not proven. All age groups are affected with a higher incidence in young women owing to long hair and hair dressing patterns.[1] Colonization of human hair may occur as a consequence of poor personal hygiene, washing of hair in stagnant water, persistence of warm and moist conditions on the scalp, and excessive use of hair oils, as seen in the index case.[5] Our patient was

a traditional burkha-clad woman who used to tie wet hair. Moreover, her head was mostly covered and hence protected from sunlight, which in general acts as a natural germicidal agent. All these taken together predisposed the index case to fungal infection and its persistence. It is significant to note that our patient had involvement of only scalp hair, with conspicuous sparing of other areas. It is important to learn about this condition as it may easily be mistaken for pediculosis on casual examination.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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