INTRODUCTION

White piedra is a superficial fungal infection of the hair shaft, caused by *Trichosporon beigelii*. It is also known as tinea nodosa, trichosporonosis nodosa, and trichomycosis nodularis.[1] Clinically, characterized by the presence of asymptomatic numerous, discrete, soft nodules loosely attached to the infected hair shafts, producing a sensation of grittiness. They are microscopic, with about 0.5 mm in diameter. Coalescence results in a sleeve-like mass indistinguishable from trichomycosis axillaris.[2] Commonly involved sites are distal portions of facial, beard, moustache and pubic hairs, with the scalp being rarely involved.[3] In contrast, black piedra almost always occurs on the scalp hair.

CASE REPORT

A 32-year-old Muslim female presented in our skin outdoor for the evaluation of asymptomatic palpable nodules along the scalp hairs since 3 months. She had been using henna mehndi for 2 years and had a history of tying wet hairs after washing. Other hairy parts of the body and scalp skin were normal. There was no pediculosis. There was no history of similar involvement in family members.

On clinical examination, scalp hairs were normal-looking without evidence of sparseness. However, individual hair showed barely visible but well-palpable whitish to cream-colored, easily detachable nodules of size 1-1.5 mm present over the shaft of almost all the scalp hairs, distributed at irregular intervals and not easily movable along the hair shaft [Figure 1].

Hair pull test result was negative. Wood's lamp examination of the affected and uninvolved hairs did not show any fluorescence. Potassium hydroxide 10% wet mount of the affected hair revealed clusters of blastoconidia were present intermittently along the hair shaft [Figure 2].

Growth on Sabouraud agar at 37°C and 22°C showed soft whitish to cream-colored wrinkled colonies at the end of 1 week [Figure 3a].

Address for correspondence:
Dr. Suresh Kumar Jain,
Department of Dermatology, Venereology and Leprosy,
GMC, Kota - 324 005,
Rajasthan, India.
E-mail: drsuresh253@gmail.com

KEYWORDS:
Trichomycosis nodularis or trichomycosis nodosa, *Trichosporon* sp., white piedra

How to cite this article: Singh A, Nyati A, Mohta A, Kushwaha RK, Jain SK. A case of scalp white piedra caused by *Trichosporon ovoides*. Int J Trichol 2019;11:134-7.
The patient was treated with topical 2% ketoconazole shampoo twice a week and oral itraconazole 100 mg once daily along with trimming of the hair regularly, resulting in a decrease in the palpability of nodules (concretions) and fragility of scalp hairs at the end of 2 months, with complete resolution at the end of 3 months. The patient was followed for the next 6 months, during which time there was no relapse.

**DISCUSSION**

White piedra belongs to family Cryptococcaceae, class Basidiomycetes and is an unusual infection of worldwide distribution usually seen in temperate and topical areas including Europe, Asia, Japan, and southern United States.\(^1^,^2\)

It is caused by a *T. beigelii*, now known as *Trichosporon asahii*,\(^3^\) yeast-like fungus, first described by Beigel in 1865 and the first case in India was reported by Basu *et al.* in 1970.\(^2^\)

All age groups are affected, with a higher incidence in young women.\(^4^\) Age and sex incidence varies from country to country, depending on the prevalent hairdressing fashions and social customs.\(^5^\) Whether the custom of covering hairs is a contributory factor that needs to be studied. The higher incidence of scalp white piedra is observed in Muslim females; contributing factor being the custom of using a veil, leading to higher humidity, and limited sunlight exposure. Only a handful of cases of white piedra have been reported in the past [Table 1].

Gueho has subdivided *T. beigelii* into six species, pathogenic to humans.\(^2^,^5^\) These include *Trichosporon ovoides*, *Trichosporon inkin*, *Trichosporon asahii*, *Trichosporon mucoides*, *Trichosporon asteroides*, and *Trichosporon cutaneum*. Carbohydrate assimilation test is done for species identification. *T. ovoides* and *T. inkin* are usually associated with white piedra. *T. ovoides* causes white piedra of the scalp, while *T. inkin* leads to pubic piedra. *T. asteroides* and *T. cutaneum* are isolated less frequently in superficial lesions and are probably contaminants.\(^2^* T. asahii* causes hematogenously disseminated infections, while *T. mucoides* usually causes central nervous system involvement in immunocompromised patients. Therefore, species identification is an important aspect.

The differential diagnosis includes pediculosis capitis, trichomycosis axillaris (trichobacteriosis), monilethrix, trichorrhexis nodosa, and peripilar keratin cast [Table 2].\(^2^\)
Shaving of affected hair is the most effective and curative remedy but generally not acceptable in females.[1] Topical antifungals commonly used are 2% ketoconazole, ciclopirox olamine shampoo, 2% selenium sulfide, 6% precipitated sulfur in petrolatum, zinc pyrithione and amphotericin B lotion, or 1% terbinaine four times a day for 2 weeks or till remissions occurs.[3] Oral agents include ketoconazole and amphotericin B.[6] Recent reports show that itraconazole is also effective in the treatment of white piedra, although it relapses
frequently. Therefore, oral azole antifungal agents eliminate the scalp carriage or infection, whereas topical antifungal eliminates the hair shaft concretions without the need for shaving.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her 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.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

**REFERENCES**

1. Hay RJ, Moore MK. Mycology. In: Burns T, Breathnach S, Cox N, Griffiths C, editors. Rook’s textbook of dermatology 7th edn. London: Blackwell Science; 2004. p. 31.16-8.
2. Basu N, Sanyal M, Banerjee AK, Thammayya A. White piedra in India. Ind J Dermatol Venereol Leprol. 1970;36:154-5.7.
3. Schwartz RA, Altman R. Piedra. eMedicine Specialties. Available from: http://emedicine.medscape.com/article/1092330-overview. [Last accessed on 2019 Apr 14].
4. Khandpur S, Reddy BS. Itraconazole therapy for white piedra affecting scalp hair. J Am Acad Dermatol 2002;47:415-8.
5. Pontes ZB, Ramos AL, Lima Ede O, Guerra Mde F, Oliveira NM, Santos JP, et al. Clinical and mycological study of scalp white piedra in the state of Paraíba, Brazil. Mem Inst Oswaldo Cruz 2002;97:747-50.
6. James WD, Berger TG, Elston DM. Diseases resulting from fungi and yeast. Andrews Diseases of the Skin: Clinical Dermatology. 10th ed. Philadelphia, Pa: W.B. Saunders; 2006. p. 312-3.