

MedPeer Publisher

Abbreviated Key Title: MedPeer

ISSN : 3066-2737

homepage: <https://www.medpeerpublishers.com>

AN ATYPICAL FLUORESCENT PRESENTATION OF WHITE PIEDRA: A CASE REPORT

DOI: 10.70780/medpeer.000QGVL

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ABSTRACT

White piedra is a rare, usually asymptomatic superficial mycosis of the hair shaft caused by yeasts of the genus *Trichosporon*. We report a 19-year-old woman with a 2-year history of asymptomatic whitish concretions on the scalp hair shafts. The concretions were readily detachable and measured 1-1.5 mm. Mycological examination identified *Trichosporon asahii*. Trichoscopy showed white-to-yellow peripilar concretions along the distal hair shafts, helping distinguish white piedra from hair casts and structural hair-shaft disorders. Wood's lamp examination revealed fluorescence of the affected hair-shaft concretions, an atypical finding because white piedra is usually non-fluorescent. Previously reported synergistic colonization by coryneform bacteria may provide a possible explanation; however, no bacterial investigation was performed in our patient. Treatment with 2% ketoconazole shampoo, oral fluconazole, and hair-drying measures resulted in clinical resolution. This case highlights the complementary role of trichoscopy and Wood's lamp examination in evaluating atypical presentations of white piedra.

KEYWORDS

White Piedra; *Trichosporon Asahii*; Wood's Lamp; Dermoscopy; Fluorescence

MAIN ARTICLE

INTRODUCTION

White piedra is a rare superficial mycosis of the hair shaft caused by yeasts of the genus *Trichosporon* [1,2]. It is reported more often in warm and humid environments, and scalp involvement is particularly described in children and young women [1]. Trichoscopy is a useful adjunct in the differential diagnosis of hair-shaft concretions [1]. We report a case of scalp white piedra caused by *T. asahii* with atypical fluorescence under Wood's lamp examination.

CASE PRESENTATION

A 19-year-old woman presented with a 2-year history of asymptomatic whitish concretions on the scalp hair (Figure 1). The concretions almost completely encircled the hair shafts, were readily detachable, and measured 1-1.5 mm. The scalp skin, eyebrows, and eyelashes were normal.

Trichoscopic examination revealed multiple white-to-yellow peripilar concretions attached to the distal portions of the hair shafts, supporting the diagnosis of white piedra and helping distinguish it from hair casts, trichorrhexis nodosa, and monilethrix (Figure 2). Wood's lamp examination showed bluish-white fluorescence of the affected hair-shaft concretions (Figure 3).

History-taking revealed that the patient frequently tied her hair while it was still wet after washing and applied hair oils after showering. Based on the clinical and trichoscopic findings, white piedra was suspected and confirmed by mycological examination, which identified *Trichosporon asahii*. The patient was advised to keep her hair dry and was treated with 2% ketoconazole shampoo twice weekly for 2 months and oral fluconazole for 3 months. Clinical resolution of the hair-shaft concretions was observed after treatment.

DISCUSSION

White piedra is a superficial infection of the hair shaft caused by yeasts of the genus *Trichosporon* [1,2].

Reported predisposing factors for scalp white piedra include persistent humidity and hair-care practices that maintain moisture around the hair shaft [1,3]. In our patient, repeatedly tying wet hair and applying oils may have favored a persistently humid environment.

Clinically, white piedra produces irregular white-to-yellow or light-brown nodules or concretions that partially or completely encircle the hair shaft and can usually be detached [1]. Scalp hair is commonly affected, although beard, mustache, axillary, and pubic hair may also be involved [1,3].

Trichoscopy can improve diagnostic confidence and help distinguish white piedra from hair casts, pediculosis, trichorrhexis nodosa, and other causes of pseudonits [1].

A particularly unusual feature in our patient was fluorescence under Wood's lamp examination. White piedra is generally described as non-fluorescent under Wood's lamp [1]. Experimental and clinical studies have shown that white piedra may coexist with specific coryneform bacteria and that fungal-bacterial synergy can contribute to invasion of the hair cuticle and cortex [4,5]. This association offers a possible explanation for the fluorescence observed in our patient; however, because bacterial culture or molecular testing was not performed, this mechanism remains speculative.

Treatment typically includes hair hygiene measures and topical antifungal therapy; clipping or shaving affected hair may also facilitate eradication. Systemic azoles can be considered for extensive, persistent, or refractory scalp disease, and combined topical and systemic therapy has been reported to be more effective than topical therapy alone [1]. Earlier series also emphasized that mycological eradication can be difficult despite *in vitro* antifungal susceptibility [6].

In our patient, 2% ketoconazole shampoo combined with oral fluconazole and measures to keep the hair dry resulted in clinical resolution.

Because no post-treatment mycological examination was performed, the outcome in this case should be considered a clinical cure rather than a confirmed mycological cure. Longer follow-up would be useful to document sustained remission and exclude recurrence.

CONCLUSION

White piedra should be considered in patients with persistent whitish hair-shaft concretions. Trichoscopy facilitates recognition of the characteristic concretions, while Wood's lamp examination may reveal atypical findings. In our case, fluorescence was observed despite white piedra usually being non-fluorescent; possible coryneform bacterial co-colonization remains a hypothesis rather than a proven mechanism. Mycological confirmation remains essential, and combined topical and systemic antifungal therapy with hair-drying measures achieved clinical resolution.

FIGURES



Figure 1. Clinical appearance of scalp white piedra showing multiple whitish concretions attached to the hair shafts.



Figure 2. Trichoscopic examination showing multiple white-to-yellow concretions partially encircling the hair shafts.



Figure 3. Wood's lamp examination showing bluish-white fluorescence of the affected hair-shaft concretions.

ACKNOWLEDGEMENTS

The authors have no acknowledgements to declare. The authors report no conflicts of interest.

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