

## Cyclophosphamide-induced nail hyperpigmentation in a child

Sir,

An 8-year-old male, a case of steroid-dependent idiopathic nephrotic syndrome, was put on oral cyclophosphamide (2 mg/kg/day in two divided doses) along with prednisolone. After 8 weeks of therapy, the child developed hyper pigmentation of nails and proximal skin folds of all the fingers. The maximally affected were bilateral thumbs [Figure 1]. Pigmentation started proximally, first involving lunulae and then progressed distally in a longitudinal fashion. There was



Figure 1: Hyperpigmentation of nails and proximal skin folds. Maximally affected were bilateral thumbs

no associated onycholysis. After stopping the therapy, pigmentation started decreasing. Nails of the feet were not affected.

Cyclophosphamide, an alkylating agent, has a varying spectrum of systemic and dermal toxicity; however, nail hyper pigmentation is a rare phenomenon in children. Hyperpigmentation in nails induced by cyclophosphamide begins proximally in the lunulae and then spreads distally, probably with the growth of the nail plate. On stopping the drug, the pigmentation reverts back in the fashion it appeared.<sup>[1]</sup> The pattern of involvement may be varied, and may involve the proximal nail fold. The color may vary from purple to brown, being more apparent in black-skinned people. Toxicity may be asymptomatic and limited to cosmetic concerns; however, more severe side effects involving pain and discomfort have been reported in adults.<sup>[2]</sup> The exact pathogenesis of this pigmentation is not very clear. Various theories have been proposed, which include drug toxicity on the nail plate, genetic predisposition, and proliferation of melanocytes. Among the numerous patients receiving the drug, hyperpigmentation develops only rarely, suggesting it to be a drug reaction occurring in genetically predisposed individuals. Clinicians using this common chemotherapeutic agent need to be aware of this uncommon side effect of the drug.

**A. Saha, N. Arora, N. Mehra, N. K. Dubey**

Department of Pediatrics, Division of Pediatric Nephrology, PGIMER and Associated Dr. RML Hospital, New Delhi, India

**Address for correspondence:**

Dr. Abhijeet Saha,  
Division of Pediatric Nephrology, PGIMER and  
Associated Dr. RML Hospital, New Delhi, India.  
E-mail: drabhijeetsaha@yahoo.com

### References

1. Ranawaka RR. Patterns of chromonychia during chemotherapy in patients with skin type V and outcome after one year of follow-up. *Clin Exp Dermatol* 2009;34:e920-26.
2. Kumar S, Dixit R, Karmakar S, Paul S. Unusual nail pigmentation following cyclophosphamide containing chemotherapy regimen. *Indian J Pharmacol* 2010;42:243-44.

#### Access this article online

Quick Response Code:	Website: www.indianjephrol.org
	DOI: 10.4103/0971-4065.97144