

## Letter to the Editor

# Nail Pigmentation Following Cancer Chemotherapy. A New Genetic Entity?

E. SULIS and C. FLORIS

*Divisione Medicina I, Ospedale Oncologico A. Businco, Cagliari, Italy*

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PIGMENTARY bands of melanin have occasionally been described in the nailbeds of cancer patients undergoing cytotoxic chemotherapy [1-6]. We have observed a high incidence (16 in 200 cases) of this phenomenon in patients from Sardinia treated mostly with adriamycin (13 cases) but also with cyclophosphamide (3 cases). Other antitubercular drugs did not produce such a phenomenon. The formation of pigmentary bands appeared to be drug-specific, because patients developing them on adriamycin did not develop them on cyclophosphamide and vice versa. The bands involved either a few or all the nails of the fingers and/or toes and presented three different patterns: transversal (Fig. 1), longitudinal bands (Fig. 2) or single band fully occupying the ungual bed (Fig. 3). They usually appeared 2-3 weeks after each cycle of cytostatic therapy and tended to fade slowly after treatment withdrawal. Sometimes it was possible to predict the number of chemotherapy cycles from the number of individual ungual bands. A concomitant deposition of brownish pigment was exceptionally observed in the palmar creases, whereas no particular sign of toxicity was found in patients besides those typical of cytostatic drugs. The phenomenon was concomitantly observed in a brother and a sister treated with adriamycin for carcinoma and in a mother and a daughter

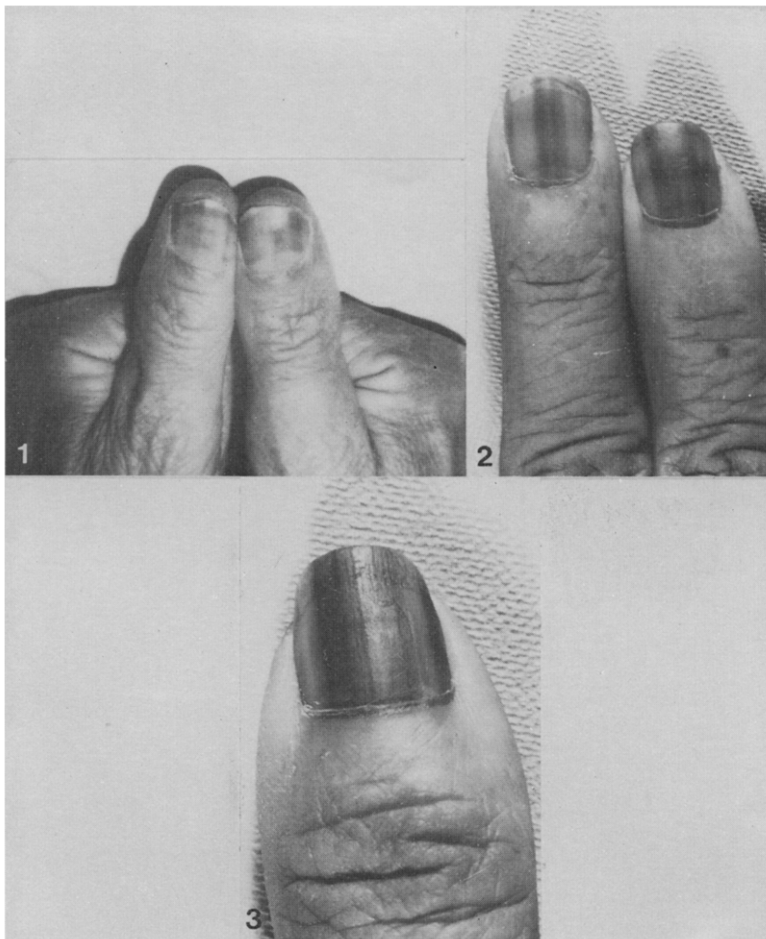
treated with cyclophosphamide for breast carcinoma, and rheumatoid arthritis resistant to conventional therapy respectively.

No particular laboratory abnormalities appeared to be associated with the development of ungual bands. Glucose-6-phosphate dehydrogenase deficiency (average frequency in Sardinia, 14%) was not more frequent than in a corresponding group of Sardinian cancer patients who failed to develop the pigmented bands. Adrenal insufficiency could be ruled out, and the radioimmunological assays of  $\alpha$ -MSH and  $\beta$ -MSH gave normal results [7]. Hence, a melanotic hyperactivity of the pituitary gland or an ectopic melanin production by the underlying tumor could be ruled out. Similarly, other factors known to be responsible for the appearance of ungual bands (such as arsenic intoxication, hypoalbuminemia, Wilson's disease) and of melanoderma (estrogens, phenothiazines, etc.) could be excluded.

There is at the moment no satisfactory explanation for the unusual phenomenon. The prevalent observation of pigmented ungual bands in blacks [1], the high incidence in Sardinians as well as the observation of the phenomenon in consanguineous patients suggest a possible genetic basis of the phenomenon.

## REFERENCES

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*Fig. 1. Transverse bands.*

*Fig. 2. Longitudinal bands.*

*Fig. 3. Single band fully occupying the ungual bed.*