Chemotherapy-Associated Supravenous Hyperpigmentation

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We read with interest the article by Schulte-Hermann et al. [1] reporting supravenous hyperpigmentation in association with CHOP chemotherapy. These authors conclude that although pigmentary changes secondary to chemotherapy are frequent, this particular venous pattern is uncommon, and they attributed it to either cyclo-phosphamide or doxorubicin. We have recently observed 2 patients with similar supravenous hyperpigmentation. The first patient was a 7-year-old black male who underwent a bone marrow transplantation for acute lymphocytic leukemia after a course of polychemotherapy which included methotrexate, Ara-C, L-asparaginase, daunorubicin and 6-mercaptopurine. His pretransplantation conditioning consisted of total body irradiation, prednisone, cyclosporine, Ara-C and cyclo-phosphamide. All drugs were administered through a central line. One month after bone marrow transplantation, he developed a striking linear hyperpigmentation reproducing the superficial venous plexus of the anterior trunk (fig. 1). There was also banded hyperpigmentation of the nails. The second patient was a 15-year-old black male with stage IIIA nodular sclerosing Hodgkin disease treated with extended mantel radiation and combination chemotherapy with doxorubicin, bleomycin, vinblastine and dacarbazine. Six months after starting the monthly chemotherapeutic regimen he developed linear hyperpigmentation reproducing the venous channels of the right anterior forearm. There was no history of extravasation or phlebitis preceding the hyperpigmentation (fig. 2).

Chemotherapy-induced hyperpigmentation is more frequent and prominent in dark-skinned individuals, and both our patients were African-American. It is difficult to know which drug is responsible for the observed hyperpigmentation. In our first patient, methotrexate, daunorubicin and cyclophosphamide may be implicated as all three are known to induce hyperpigmentation [2, 3]. However, the last doses of methotrexate and daunorubicin were administered more than 1 month before the pigmentary changes developed. In the second patient, the more plausible culprit drugs are bleomycin and doxorubicin. The venous pattern of pigmentation in this patient was distinct from the bleomycin-associated linear, flagellate hyperpigmentation in areas of excoriation and scratching [4].

Fig. 1. Hyperpigmented streaks overlying superficial abdominal veins in patient No. 1. Note a diffuse macular hyperpigmented eruption from resolving acute graft-versus-host disease. The mechanism of this particular pattern of hyperpigmentation is unknown. Some authors propose a postinflammatory hyperpigmentation secondary to subclinical phlebitis. This explanation may be true in cases where the pigmentary changes develop in the skin immediately overlying the veins used for therapy infusion [3, 5]. However, it is not plausible in our first patient, because he received all chemotherapeutic drugs through a central line directly into the right ventricle. In our second patient, this mechanism cannot be excluded as there was no

information regarding the veins into which chemotherapy was infused, but should phlebitis have occurred, we would expect the hyperpigmentation to be confined to the distribution of a few major veins and not to reproduce the whole regional venous pattern of the anterior forearm.

Fig. 2. Hyperpigmented streaks overlying veins of the forearm in patient No. 2.

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- 'Zosteriform' Lichen planus: Is It Zosteriform?

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Key Words

Lichen planus, linear · Blaschko's lines · Zosteriform pattern · Köbner phenomenon

I read with interest the article by Fink-Puches et al. [1] on an unusual case of linear lichen planus showing a strikingly unilateral and systematized arrangement. They interpret the 'zosteriform' pattern as a cutaneous reaction possibly triggered by some neural factor, and they discuss several hypothetical pathomechanisms such as a Köbner phenomenon after herpes zoster infection, a viscerocutaneous reflex or a radicular irritation caused by a disorder of the vertebral column. However, following Alfred Blaschko's line of thought we should recognize a clear-cut difference between a zosteriform distribution and the usual arrangement of linear skin lesions [2]. When studying the case reports on linear or zosteriform lichen planus reported in the literature, I have come to the conclusion that in virtually all of these cases the lesions were arranged in a pattern following the lines of Blaschko [3-10]. For example, a characteristic S-figure on the antero-lateral aspect of the abdomen has been documented [8-10]. Notwithstanding, some exceptional cases of true zosteriform lichen planus

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