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# Dermato-venereological Quiz

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A 52-year-old Malay man with generalised lymphadenopathy was diagnosed to have stage IIIA Hodgkin's lymphoma (nodular sclerosing type). He was started on chemotherapy (Adriamycin, Bleomycin, Vinblastine, Dacarbazine; ABVD), and was also given allopurinol and omeprazole. One week after commencement of ABVD, he developed intensely pruritic urticarial plaques over his upper limbs and body. Allopurinol and omeprazole were stopped. The second cycle of chemotherapy was started two weeks later, and he developed similar eruption within one day, which he scratched profusely. There was no history of topical allergens, use of herbs or trauma. Examination revealed intensely erythematoviolaceous urticated plaques in linear, flagellate pattern over his arms, trunk and legs. There was no mucosal involvement or dermographism (Figure 1). The patient was afebrile and examination of other systems was unremarkable. Baseline blood tests including full blood count and differential counts, liver and renal function were unremarkable. Creatine kinase was normal and anti-nuclear antibody was negative. An incisional skin biopsy was obtained on the abdomen for histological evaluation (Figures 2 & 3).

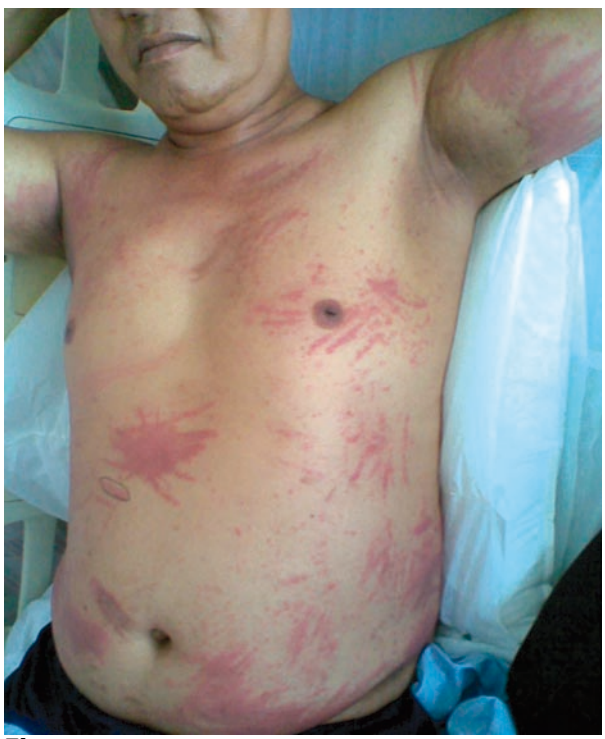

**Figure 1.**

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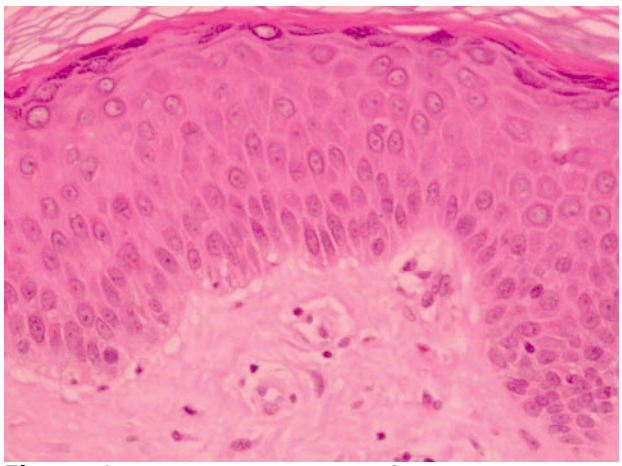

**Figure 2.** H & E, original magnification x 200.

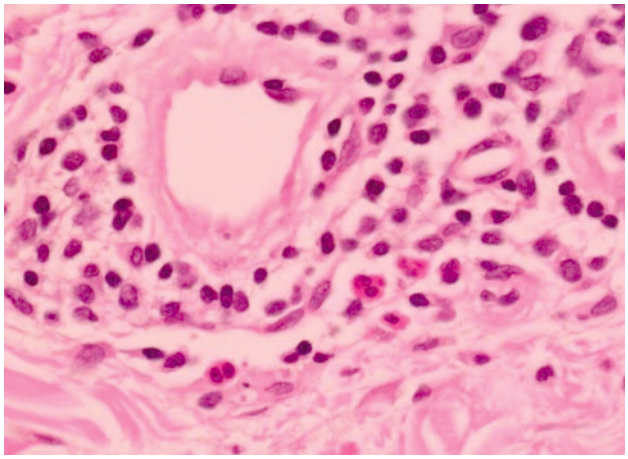

**Figure 3.** H & E, original magnification x 400.

## Questions

1) What are the differential diagnoses?
2) What does the histology show?
3) What is the diagnosis and likely culprit agent?
4) What is the treatment and prognosis?

(Answers on page 163)

## Answers to Dermato-venereological Quiz on pages 153-154

1. Clinical differential diagnoses include drug eruption, dermatomyositis, urticaria, urticarial vasculitis, and Shiitake dermatitis in Asia.

2. Histopathological examination of skin biopsy revealed interface dermatitis with basal vacuolar alteration and superficial perivascular mononuclear infiltrate with increased eosinophils. There were no vasculitic or malignant changes. Direct immunofluorescence was negative. Overall findings were compatible with a drug eruption.

3. The likely diagnosis was bleomycin-induced flagellate drug eruption. Bleomycin is an anti-neoplastic antibiotic derived from *Streptomyces verticillatus*. It has been used systemically for head and neck squamous cell carcinomas, germ cell tumors and lymphomas; and intralesionally for treatment of recalcitrant warts, hypertrophic scars and keloids. Due to the deficiency of the metabolising enzyme in the lungs and skin, bleomycin-toxicity occurs predominantly in these organs, causing pulmonary fibrosis (higher dose, more than 400 IU) and cutaneous toxicity (lower dose, 200-300 IU). Common cutaneous reactions include drug fever, mucocutaneous reactions, nail pigmentation and phlebitis.

   Flagellate erythema or scratch dermatitis is a common and classical cutaneous side-effect of bleomycin, occurring in 8-66% of patients. It typically presents as erythematoviolaceous linear streaks on the trunk and or shoulders with marked post-inflammatory hyperpigmentation that were devoid of inflammation. The exact mechanism of flagellate erythema is unknown. Micro-trauma like scratching, which causes the drug to leak out of the vasculature, was thought to be one of the triggers. Histological features resemble drug eruption, and notably with little inflammation, as opposed to dermatomyositis.

4. Apart from drug withdrawal, no treatment is available for bleomycin-induced flagellate dermatitis. Symptomatic treatment can be used as required. The prognosis is good. The eruption is self-limiting and pigmentation usually clears within 6-8 months. It is not an allergic reaction and patch tests are negative. However, recurrence of eruption of increased intensity within 24 hours of re-challenge has been documented. If it is found to co-exist with bleomycin-induced scleroderma, discontinuation of drug is recommended to avoid serious outcome. The chemotherapy regimen was altered in our case and residual post-inflammatory hyperpigmentation in a flagellate pattern lasted beyond two months.