

Crusted Scabies (Norwegian Scabies) Diagnosed by Epiluminescence Microscopy

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Introduction

The traditional way of diagnosing scabies is by use of a needle and a magnifying glass or by skin scrapings followed by examination with a light microscope. It has been shown that epiluminescence microscopy (ELM) is a useful tool for *in vivo* diagnosis of common scabies (1, 2), since ELM allows detailed inspection of the epidermis, which is where the scabies mites live. We applied this technique to crusted scabies, which is often misdiagnosed as a form of scaly dermatosis.

Materials and methods

Four patients were recruited from among those admitted to the Department of Dermatology, Bispebjerg Hospital, from February to May 1999. Patients were admitted under various diagnoses, such as eczema, scabies and unknown skin disease.

- 1) The skin was wiped with alcohol immediately before applying the ELM/videodermatoscopy.
- 2) ELM was performed using an epiluminescence microscope with a 10 ×



Fig. 1. Mites are identified as small, black, triangular structures at the end of a burrow (more than hundred are seen in this picture). Examples are shown by arrows.

magnification. Videodermatoscopy of the skin was performed using a video microscope system (Videolupe Scalar VMS-110, scalar co-operation Tokyo, Japan) with a light at magnifications ranging from 25 to 50. The images were captured by a video camera equipped with an optic fibre device and then visualised on colour prints. 3) ELM photos were taken with a dermaphoto camera (Heine Ophthalmic, Hensdurlingen, Germany). 4) The diagnosis was confirmed by examination of skin scrapings by light microscopy.

Results

Four patients (2 women, 2 men; mean age 75 years, range 47-92) with crusted scabies were included in the study. Two of the patients were suffering from dementia and were not aware of their situation. One patient had been suffering from severe itching, for which he had been given

systemic prednisolone. One patient, with a mild degree of crusted scabies, had been in close contact with a relative who had died from lymphoma and suffered from crusted scabies.

Crusted scabies was diagnosed in all of these patients by use of ELM, by which mites, eggs and faecal pellets were seen (Fig. 1). The mites were identified as multiple small, dark-brown, arrow-shaped and, triangular structures at the end of a burrow ("jet-with-contrail") (1). The triangular structure corresponded to the pigmented anterior section of the mite (mouth parts and 2 pairs of front legs). Mites were further identified by use of light microscope.

Discussion

Using ELM we managed to see the burrows of numerous mites, whereby the diagnosis could be made. As a

supplement, videodermatoscopy with a higher magnification than that of ELM was used, which made the diagnosis even clearer. The suspicious sites could be examined within a few minutes, and the procedure could be carried out without any discomfort to the patient. This shows that the technique could be used as a screening in any patient, including children

and elderly people, suffering from an atypical scaling skin disease. Employing this technique would prevent misdiagnosis of crusted scabies and thereby transmission of the ectoparasite to other persons. Also the infected person would benefit from getting the right treatment at the first consultation.

References

1. Argenziano G, Fabbrocini G, Delfino M. Epiluminescence microscopy - a new approach to in vivo detection of *Sarcoptes scabiei*. Arch Dermatol 1997; 133: 751-753.
2. Brunetti B, Vitiello A, Delfino S, Sammarco E. Findings in vivo of *Sarcoptes scabiei* with incident light microscopy. Eur J Dermatol 1998; 8:266-267.

BOOK REVIEW

Hans Rorsman, Alf Björnberg & Anders Vahlquist: *DERMATOLOGY VENEREOLOGY* Studentlitteratur, 2000

The sixth edition of Rorsman, Björnberg and Vahlquist's textbook on Dermatology and Venereology is now available. In contrast to the first editions it has now become a rather voluminous book, with 379 full-colour clinical pictures and a text that flows more fluently than in previous editions, where the language perhaps was somewhat compendium-like. The first thing that strikes you in opening this book is the photographs. They are brilliant, large, sharp and in colours that are true to nature, and they accompany and complete the written words so that the text can better be reduced. Seldom have I seen such high-quality photographs in a textbook, almost better than nature itself and therefore highly pedagogical.

The textbook is intended for Swedish medical students but I do not hesitate to recommend it to Danish students as well, even if it contains some more specifically Swedish terms and recommendations. General practitioners and even dermatologists will also find benefit and pleasure in reading this book.

The book includes pictures of rare conditions such as Lupus erythematosus of the eyelids, scar sarcoidosis, periocular dermatitis, hypertrichosis in porphyria cutanea tarda, disseminated granuloma annulare, glucagonoma

syndrome and many other rare skin diseases that every dermatologist would be proud to diagnose. The text is straightforward and sober but the therapeutic advice is sometimes rather nihilistic, which of course is a matter of taste. It is brave of the authors to show the callosities following surgical removal of plantar warts.

The index contains short descriptions of conditions not mentioned in the text, a charming oddity I have never seen in other textbooks.

A few critical comments, however, are justified. The pictures in the book are not always placed in close contact with the text, often ending up on the next page. In addition, the picture of pearly penile papules has been placed in a chapter dealing with *ulcus molle*, while its clinical description is found in the *balanitis* chapter. Text and picture should be moved to the *condylomata* section.

Despite these minor objections I warmly recommend this book to students, general practitioners and dermatologists.

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