‘Burrow-Trucut’ – A Method for Harvesting Scabietic Burrows

W.Y.M.

Tang

Social Hygiene Service, Department of Health, Hong Kong Government, Hong Kong

Key Words

Scabies

Burrow

Burrow-trucut

Dr. William Yuk Ming Tang, Lek Yuen Social Hygiene Clinic, 3/F, Lek Yuen Health Centre, Lek Yuen, Hong Kong, Tel. 26928117, Fax 26020305

Scabies is common and its diagnosis is in most cases straightforward. However, cases may present with atypical features and may lead to erroneous diagnoses [1-3]. Also, infants may have features different from what is classically described in adults [4]. In doubtful cases, efforts should be made to search for subtly laid burrows where the female mites of *Sarcoptes scabiei* reside. Successful detection of burrows could be achieved using the Burrow Ink Test described by Wood-ley et al. [5]. This should be followed by isolation and demonstration of the mite, which is crucial for confirming a clinical suspicion of scabies and helps to exclude other dermatological differentials. A simple method labelled ‘Burrow-trucut’ (BT) used by the author for harvesting scabietic burrows has given good yields of mites and is described. BT refers to the technique of using a 2-mm biopsy punch to core out a scabietic burrow with the mite well retained in it whilst the perilesional skin was held steady with a thumb and a finger. No anaesthesia is required for the procedure. A set of semi-diagrammatic illustrations of the BT method is depicted in figure 1. Two infants with atypical features and the correct diagnosis confirmed by BT are presented.

Case Reports

Case 1. A 2-month-old previously healthy female baby was admitted to the paediatric ward for fever, gastroenteritis, oral candidiasis and seborrhoeic dermatitis on her face and ears. Her fever and diarrhoea subsided with conservative treatment. However, her dermatitis worsened and she was then presented for dermatological consultation. Examination showed multiple pin-head-sized, erythematous papulo-vesicles on the body. Two suspected burrows were noted in the sole. Skin scraping for mites failed to show any mite, mite parts or eggs. One lesion was harvested with BT. A live mite was demonstrated under the low-power microscope. She was treated with 5% benzyl benzoate emulsion and the skin lesions resolved.

Case 2. A 5-month-old female baby was brought by her mother to the dermatology clinic with a 3 months’ history of recurrent papules at her body and limbs. Scratching was minimal and the baby was not irritable. Concurrently, her mother also had itchy skin but itching was considered mild. Examination of the baby showed several tiny pin-head-sized erythematous papules on the trunk, peri-axillary regions and legs. Apparently, some lesions were subsiding and became pigmented. Careful search failed to demonstrate burrows or vesicles. She was given crotamiton for possible animal scabies or insect bites. A second examination 1 week later showed two linear scratch mark-like lesions each about 4 mm long. Skin scrapes from these lesions were negative

for mites, but microscopic examination of the epidermal materials obtained by BT revealed a mite and three eggs.

Discussion

The diagnosis of scabies is traditionally made upon identification of scabietic mites from skin scrapings or burrows. Microscopic examination of skin scrapes from suspicious lesions taken with the blunt

Fig. 1. a A 2-mm biopsy punch is aligned in the direction of the burrow and tangential to the skin surface, b The punch is threaded down the burrow, c The whole length of burrow is threaded and the punch withdrawn, d The burrow is forceped at its free end. The other end of the burrow, still attached to the stratum corneum, is cut separate by a pair of iris scissors. The whole burrow en bloc is transferred onto a glass slide for microscopic examination.

KAKGER

E-Mail karger@karger.ch Fax+ 41 61 306 12 34

<http://www.karger.ch>

© 1997 S.KargerAG, Basel

1018-8665/97/1954-0408\$ 15.00/0

This article is also accessible online at: <http://BioMedNet.com/karger>

edge of a scalpel blade is routinely performed by clinicians for evaluating scabies. There is no doubt that this technique is easy and requires no special skill [61]. However, the number of mites harboured in common scabies that represent most of the scabies cases is only around 10-15. Therefore, skin scraping for mites often gives a very low isolation rate and is frustrating as experienced by Leibowitz [7]. Including the 2 cases presented, the author has the experience of using BT method for diagnosing scabies on a total of 5 babies and microscopic examination revealed a mite and/or eggs in 4 of them. The preliminary experience with the 4 babies showed that mites could be demonstrated in an average of two attempts per baby with one attempt per lesion. The principle of BT is similar to that of epidermal shave biopsies [8], but instead of using a scalpel blade, a biopsy punch is employed. Compared with the epidermal shave biopsy technique, BT appears to be more versatile as burrows may be situated in the finger webs or inter-triginous areas where a blade may have difficulty to get access to. To conclude, for patients with suspected scabies, an attempt should always be made to recover the scabietic mite and mite products. Should skin scraping fail to yield the culprit, BT is another useful diagnostic manoeuvre which is easy to perform, safe and effective.

Acknowledgment

This paper was presented in part at the Second Guangdong-Hong Kong Dermatological Conference, September 14-15, 1996, Zhong-shan, Guangdong, China. The author gratefully acknowledges Dr Chong Lai-Yin from the Social Hygiene Service, Department of Health, Hong Kong for commenting on the manuscript, and Miss Virginia M. Ferrante, MA, Medical Illustrator, for producing the medical illustrations.

References

- Said S, Jay S, Kang J, Liem WH, Jensen JL, Jeffes EW: Localized bullous scabies. Uncommon presentation of scabies. *Am J Dermatopathol* 1993; 15:590-593.
- Chan LS: Generalized pruritic psoriasiform lesions. Scabies. *Arch Dermatol* 1991;127:1833-1836.
- Fujimoto K: Clinical study of scabies. The changes in the modes of transmission, and its diagnosis and treatment (in Japanese). *Nippon Ika Daigaku Zasshi* 1994;61:572-589.
- Paller AS: Scabies in infants and small children. *Sem Dermatol* 1993;12: 3-8.
- Woodley D, Saurat JH: The Burrow Ink Test and the scabies mite. *J Am Acad Dermatol* 1981;4:715-722.
- Wolf R, Avigad J, Brenner S: Scabies: The diagnosis of atypical cases. *Cutis* 1995;55:370-371.
- Leibowitz M: Shave biopsy an underutilised technique in the diagnosis of scabies (letter). *N Z Med J* 1994; 107:111-112.
- Martin WE, Wheeler CE, Jr: Diagnosis of human scabies by epidermal shave biopsy. *J Am Acad Dermatol* 1979;1:335-337.
- Dermatology* 1997;195:409-410
- Photosensitivity due to Ampiroxicam
- M. Chishiki\ A. Kawada", A. Fujioka", M. Hiruma",
A. Ishibashi", H. Banba° " Department of Dermatology, National Defense Medical College, and
11 Banba Dermatology Clinic, Tokorozawa, Japan

Key Words

Photosensitivity · Ampiroxicam · Piroxicam ■ Photopatch test

Piroxicam is known to induce photosensitivity. Ampiroxicam has been developed as an ethoxycarbonyl ether prodrug of piroxicam. We describe here a case with photosensitivity due to ampiroxicam.

An 84-year-old woman was seen in July 1996 with pruritic and well-delineated erythema and papules on sun-exposed areas that had started 4 days before. She had no history of photosensitivity. She had started taking ampiroxicam (Flucam®, Toyama Chemicals Co. Ltd., Tokyo, Japan) 13.5 mg b.d.s. orally because of arthritis of both knees 7 days before. There were no abnormal findings on hematological examination, blood chemistry or urinalysis, including porphyrins of peripheral erythrocytes and urine. Histological findings of erythema on the right forearm demonstrated intercellular edema and perivascular lymphohistiocytic dense infiltration. We performed a screening phototest, as described before [1], with a Dermalay Model M-DMR-1 (Eisai Co. Ltd.) as a light source [2, 3] 3 months after she had stopped the drug. The UVB minimal erythema dose for this patient was normal (50 mJ/cm²), and irradiation of 13.5 J/cm² for UVA elicited no response, suggesting that photosensitivity of the patient had become normal. Patch and photopatch tests were made with ampiroxicam and piroxicam (10, 1 and 0.1% in petrolatum). Ampiroxicam (10 and 1% in petrolatum) and piroxicam (10, 1 and 0.1 % in petrolatum) with UVA irradiation (4.5 J/cm²) on photopatch test showed erythema 1 and 2 days after irradiation. Patch tests with thiosalicylic acid (1 and 0.1 % in petrolatum) and thimerosal (0.05% in petrolatum) were positive 2 days after application, while a patch test with mercuric

chloride (0.05%) was negative. Patch and photopatch tests with ampiroxicam and piroxicam in 6 normal subjects showed no response 2 days after application or 1 day after irradiation. Ampiroxicam, a prodrug of piroxicam, has been in use since 1994 as a nonsteroidal anti-inflammatory drug. Inactive ampiroxicam is hydrolyzed to active piroxicam by an intestinal carboxyesterase during absorption through the intestinal wall [4]. Our case and 2 reported cases [5, 6] with photosensitivity due to ampiroxicam showed a positive photopatch test in which irradiation was performed after 2-day closed patch testing, indicating that 2-day application was appropriate for ampiroxicam. Kurumaji [5] suggests that the positive photopatch test is due to conversion of ampiroxicam to piroxicam in the skin. However, we have postulated another hypothesis, i.e. that UVA irradiation of ampiroxicam could produce a similar photoproduct to that from piroxicam, because the carboxyesterase is specifically located in the intestine [4]. Piroxicam-induced photosensitivity is related to contact sensitivity to thimerosal and thiosalicylic acid [7-11]. All 3 cases with photosensitivity to ampiroxicam show positive patch tests with thimerosal and thiosalicylic acid, indicating a common pathogenesis in photosensitivity due to piroxicam and ampiroxicam.

Letters to Dermatology
Dermatology 1997; 195:409-410
409