

Table I. Autoradiography on semi thin sections using rabbit lip epithelium as substrate Merkel cells appear as clear cells (2)

	Number of clear cells	Number of <sup>3</sup> H-thymidine cells	Number of <sup>3</sup> H-thymidine (% of clear cells)
Adult rabbits	1 084	2 476	2 (0.18%)
Newborn rabbits	353	1 573	1 (0.28%)
Total	1 437	4 049	3 (0.21%)

another technique. However, all these studies were conducted on adult or newborn animals (rats, rabbits). Actually, they tend to demonstrate that at least post-natal epidermal MC are not a cycling population.

To our knowledge, immunohistology or autoradiography have not yet been performed in embryos, where cycling MC should be more numerous.

We recently observed several dividing MC on early mouse embryos by electron microscopy (Fig. 2) (4); this suggests that MC can be cycling cells too, but that their proliferative capability could be restricted to early gestational age when they first appear in the epidermis and appendages.

#### REFERENCES

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#### Skin Tags Are More Closely Related to Fasting Insulin Than Fasting Glucose Levels

Sir, In their recent article, Kahana et al. (1) demonstrated that skin tags provide a cutaneous marker for non-insulin dependent diabetes mellitus (DM). We suggest that skin tags are more directly a marker of raised circulating insulin levels. Of 13 consecutive patients (age range 31 to 76 years) presenting with skin tags, raised fasting insulin levels (range 20 to 103 mU/l; normal range 0.75 to 14 mU/l) were found in 8. In contrast, fasting glucose levels were raised in only 2, both found to have previously undiagnosed DM. Mean number of skin tags was 20 (range 2-55) in patients with supranormal fasting insulin levels, 9.5 (3-24) in those with normal levels.

Large numbers of skin tags frequently occur in patients with pseudoacanthosis nigricans (2), the development of skin changes coinciding with weight gain and regressing with weight loss. Increasing obesity is known to cause insulin resistance at the receptor level and thus hyperinsulinaemia. That high circulating insulin levels might be linked with the epidermal changes of pseudoacanthosis is supported by reports of the association of acanthosis nigricans with other disorders characterised by insulin resistance such as lipodystrophic states, Alstrom's syndrome, the pineal hyperplasia syndrome, leprechaunism and the type A and type B syndromes of insulin resistance (3).

Thus, raised circulating insulin levels appear to be associated with formation of skin tags, perhaps due to an insulin-mediated effect on epidermal proliferation. It is known that the growth-promoting effects of growth hormone are mediated by somatomedins, which are small polypeptides produced by the liver, and recent studies using three-dimensional models (4) suggest that insulin could activate receptors for certain of these peptides known as insulin-like growth factors.

## REFERENCES

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2. Curth HO. Pseudoacanthosis nigricans. *Am Dermatol Syph* 1951; 78: 417-429.
3. Kahn CR, Flier JS, Bar RS, Archer JS, Gorden P, Martin NM, Roth J. The syndromes of insulin resistance and acanthosis nigricans. *N Engl J Med* 1976; 294: 739-745.
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## ANNOUNCEMENTS

*III European symposium on Psoriasis* will be held in Trieste, 23-25 September, 1988. For further information contact Dr. F. Kokelj, Clinica Dermovenereologica, c/o Ospedale di Cattinara, 34149 Trieste, Italy.

*5th International congress of Pediatric Dermatology* will be held in Milan, 11-15 July, 1989. For further information contact Secretariat, 5th International Congress of Pediatric Dermatology, Via Menabrea, 24/A 20159 Milano, Italy.

## Journals received

*Epithelia* by Christopher S. Potten. Oxford University Press. Quarterly, UK £50, N America US\$100, Elsewhere £60. Articles dealing with epithelial cell behaviour.

## Thesis

*Ultraviolet radiation, vitamin A and the skin. Photodynamic studies on natural and synthetic retinoids.* Berit Berne, Department of Dermatology, University Hospital, S-751 85 Uppsala, Sweden.

*Clinical and experimental studies on lipid changes in relation to psoriasis and retinoid therapy.* Carin Vahlquist, Department of Dermatology, University Hospital, S-751 85 Uppsala, Sweden.