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Deposits of Complement and Immunoglobulins in Dermal and Synovial Vessels in Psoriasis

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Received December 19, 1977

Abstract. Deposits of complement C3 and/or immunoglobulin were found in the vessel walls and/or at the dermal-epidermal junction in skin lesions of all of 11 patients with psoriatic arthritis and guttate psoriasis. Similar deposits were seen in 6 out of 15 patients with psoriasis vulgaris. Synovial tissue available from 2 patients revealed deposits in the vessel walls.

Key words: Psoriasis; Immunofluorescence; Vessel walls; Dermal-epidermal junction

Burnham and co-workers demonstrated immunoglobulin at the dermal-epidermal junction in psoriasis (2). In pustular psoriasis complement C3 has also been found at this site (3). We used im-

muno fluorescence microscopy to look for deposits of immunoglobulins and complement C3 in the skin of patients with psoriasis.

MATERIAL AND METHODS

Biopsies from lesions as well as clinically uninvolved skin were obtained from 26 patients. Fifteen had psoriasis vulgaris, and 6 had acute guttate psoriasis with histories of recent sore throat and fever. Five patients had psoriasis and psoriatic arthritis, 2 of whom underwent synovectomy and synovial biopsies were examined concomitantly with the skin biopsies.

The biopsies were examined for deposits of IgG, IgM, IgA and complement C3 by a direct immunofluorescence technique. The procedure has been described in detail elsewhere (5).

RESULTS

Deposits of complement C3 were seen in the vessel walls of skin lesions in 15 patients (Table I) (Fig. 1).

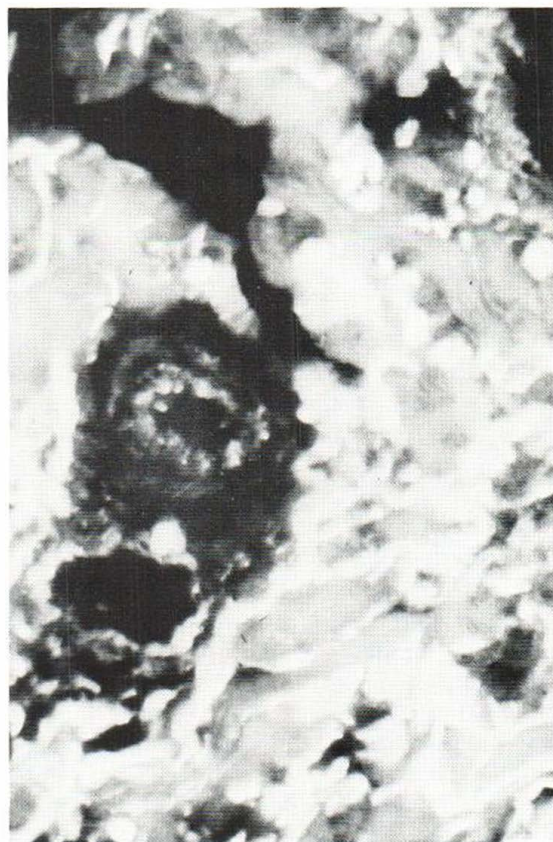


Fig. 1. Granular deposits of complement C3 in dermal vessel.

Table 1. *Deposits in psoriatic skin lesions*

	No. of patients	Vessel walls			Dermal-epidermal junction		No deposits
		C 3	IgM	IgA	C 3	IgM	
Ps. arthritis	5	4	1	1	2	0	0
Ps. guttata	6	5	2	0	5	2	0
Ps. vulgaris	15	6	0	0	3	0	9
Total	26	15	3	1	10	2	9

In 4 patients IgM and IgA were also found. Ten biopsies revealed granular deposits of complement C 3 at the dermal-epidermal junction. No deposits were seen in clinically uninvolved skin of any patient except one in whom IgM was found in the vessel walls. Deposits of IgM and C 3 were demonstrated in the vessel walls of the two synovial biopsies (Fig. 2).



Fig. 2. Deposits of complement C 3 in synovial vessel.

COMMENTS

Morphologically the deposits in the vessel walls and at the dermal-epidermal junction were of the type seen in immune-complex diseases (1, 5). Infections, especially those caused by haemolytic streptococci, which may give rise to circulating immune complexes, regularly precede exacerbations of guttate psoriasis (6). In psoriatic lesions, inflammatory cells, mainly lymphocytes, surround the vessels of the dermis (4). We suggest that deposition of circulating immune complexes causing dermal vasculitis may be involved in the pathogenesis of psoriatic lesions in skin and synovial membrane.

ACKNOWLEDGEMENT

We wish to thank Mariann Nielsen for skilful technical assistance. This study was supported by a grant (No. 512-8196) from the Danish Medical Research Council.

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