

PERSISTENT SCABIOUS NODULES (A Clinico-Pathologic Study)

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Twenty nine (5.33%) out of 544 patients of scabies had persistent scabious nodules. Young adults (16-30 years) and children under 15 years constituted 48.27% and 34.48% patients respectively. All but one were males. Scrotum (96.55%) and penis (69.0%) were the commonest sites affected, followed by axillary region (37.93%) and groins (17.24%). Nodules disappeared in all the patients within 4 months. Histopathological studies done in 11 patients showed intracellular or intercellular oedema, occasionally distinct vesicle formation and focal or diffuse infiltrate by lymphomononuclear cells, plasma cells and eosinophils.

Key words : Persistent, Scabies, Nodules, Pathology.

Pruritic nodules persisting for weeks or months after adequate treatment of scabies, were first described in 1932 by Ayers and Anderson.¹ This observation was subsequently confirmed by many workers²⁻⁵ and the subject has been reviewed by Bagnall and Rook.⁶ These nodules may mimic reticulosis in histopathological sections.⁵ Since there is a paucity of literature on this subject from India, a clinico-pathological study was undertaken to elucidate the characteristics of persistent scabious nodules.

Materials and Methods

A total of 29 patients with clinical evidence of scabies having papulo-nodular lesions for four weeks or more were included in this study. The study was carried out between August 1983 and December 1984. The clinical findings were recorded on a proforma with special emphasis on site, size, shape and number of nodules and their response to antiscabietic and local corticosteroid applications. Patients were treated with a single, over-night application of 1% gamma-benzene hexachloride cream or lotion. Crota-miton 10% alone or with hydrocortisone(0.25%) in cream base was used for persistent nodules

after the antiscabietic treatment, and it was continued till the lesions subsided. Patients were followed every two weeks to assess the clinical response. Nodular lesions were biopsied in eleven patients for histopathological studies.

Results

Five hundred and forty four patients with scabies were examined during the study period, and 29 (5.33%) patients had nodular lesions present for four weeks or more. Their ages ranged from 1.5 to 54 years with a mean of 21.5 years. All but one were males. Average duration of nodular lesions was 3.76 months (range 1.5-24.0 months) at the time of presentation. Scrotum was the commonest site affected followed by penis and axillary region (Table I). The

Table I. Sites of persistent scabious nodules in twenty nine patients.

No.	Site	Number of patients	Percent
1.	Scrotum	28	96.55
2.	Penis	20	69.00
3.	Axillary region	11	37.93
4.	Groins	5	17.24
5.	Buttocks	2	6.89
6.	Abdomen	1	3.45
7.	Side of chest	1	3.45
8.	Thighs	1	3.45

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nodules were erythematous to brown in colour and were frequently excoriated. The size of nodules varied from 5-10 mm and they were round to oval in shape. The number of nodules varied from 2-20 and their average number was eleven. Multiple nodules (more than 10) were usually seen over the scrotum and penis. Nodular lesions were also present in the father of one patient.

Twelve patients were untreated and fourteen had applied various antiscabietic preparations with temporary improvement. Three of them had used local or systemic corticosteroids without any significant improvement. In seventeen patients, scabies responded to gamma-benzene hexachloride and the rest twelve cases were lost to follow up. One patient relapsed with nodular lesions on the same sites after two months but responded to another application of gamma-benzene hexachloride. Nodular lesions were present in all cases for one month after therapy. Nodules disappeared in 47.10% in two months, in another 23.55% at three months, and in the remaining 29.35% at four months after treatment. Statistically, there was no significant difference in response of nodular lesions to crotamiton alone or along with hydrocortisone. However, subjectively the patients felt that crotamiton with hydrocortisone was better.

Tinea manuum, pompholyx, vitiligo and fixed drug eruption, and pemphigus vulgaris were the associated dermatological ailments in one patient each. Four patients had secondary infection.

Out of eleven biopsies, nine were from scrotum and one each from axilla and upper thigh. Three biopsies revealed the characteristic burrow in the horny layer of epidermis (Fig. 1), mite segments could be demonstrated in one biopsy (Fig. 2). Epidermis revealed a variable degree of intracellular and intercellular oedema (Fig. 3) and patchy acanthosis, parakeratosis in four biopsies. Distinct vesicles (Fig. 4) were

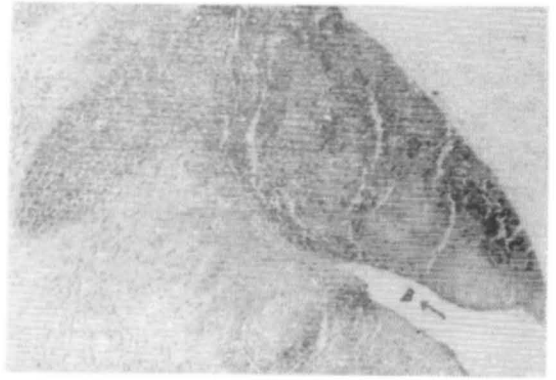


Fig. 1. A portion of the burrow (B) in the stratum corneum (H & E X140).



Fig. 2. Segment of a mite in the stratum corneum (H & E X550).

evident in only two biopsies. In all the cases, there was moderate to heavy chronic inflammatory infiltrate in the upper and mid dermis in a patchy or diffuse distribution (Fig. 3). It consisted of lymphomononuclear cells, plasma



Fig. 3. Intercellular and intracellular oedema in the epidermis and patchy heavy mixed inflammatory exudate in the upper dermis (H & E X140).

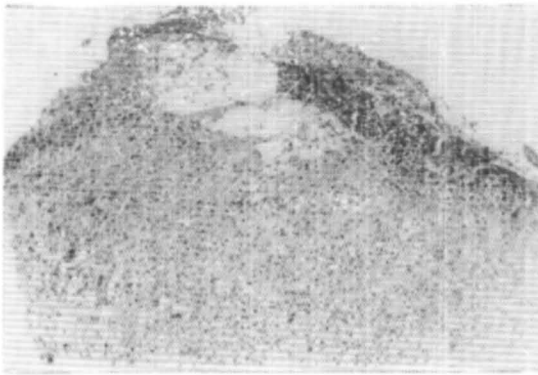


Fig. 4. An intraepidermal vesicle overlying an acute inflammatory exudate (H&E X140).

cells and eosinophils. In four sections, eosinophils were predominant in the infiltrate.

Comments

An incidence of 5.33% of persistent nodules in the present study compares well with the

incidence of 6.7% reported by Konstantinov and Stanoeva.⁴ Almost half (48.27%) of the patients in the present study were adolescents and young adults, while children under 15 years constituted 34.48% of all the cases, in contrast to the results of Konstantinov and Stanoeva who found 67.0% cases under 15 years. Overwhelming majority of our patients were males, whereas in the series of Konstantinov and Stanoeva, males were 57.4%. The commonest sites affected were scrotum (96.55%), penis (69.0%), axillary region (37.93%) and groins (17.24%). However, Konstantinov and Stanoeva found axillary region (50.0%) and scrotum (40.0%) as commonest sites involved, followed by abdomen (29.0%), groins (26.0%) and penis (20.0%). Nodular lesions in our cases resolved in 5 to 16 weeks after adequate therapy for scabies and no lesion persisted after 16 weeks, but in five of the 126 patients of Konstantinov and Stanoeva, nodules persisted for 9-12 months. Secondary infection occurred in 13.7% and 10.6% patients with nodular lesions and common scabies respectively. Familial occurrence of nodular lesions was infrequent (3.4%).

The histopathological changes in the epidermis were eczematous with patchy or diffuse chronic inflammatory infiltrate in the dermis. Eosinophils and plasma cells were seen in good numbers. Similar histopathological findings have been described by other workers.^{4,7,8} Mite was seen in one biopsy only, as it is rarely seen in the nodular lesions.⁸ Neovascularity and collagen proliferation described by Fernandez et al⁸ in nodular lesions was not seen in the present study. No case of reticuloid histopathology as reported by Thomson et al⁵ was seen.

The pathogenesis of persistent scabious nodules is not clear. It is considered to be a hypersensitivity phenomenon⁹ and IgE levels are raised.¹⁰ It was attributed to deep lodgement of the parasite and its excrement in delicate skin of the affected parts.⁴ Recently, T-lympho-

cytes have been demonstrated in the infiltrate of nodular scabies suggesting a role of delayed type hypersensitivity in its pathogenesis.¹¹

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