Acta Dermatovener (Stockholm) 51: 444–447, 1971

ERYTHRASMA AND PRURITUS ANI

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Abstract. A detailed account of erythrasma in relation to pruritus ani is given. Fifteen cases in a series of 81 patients were shown to have erythrasma, and this would have been the diagnosis whether they had pruritus ani or not.

It has recently been found by Bowyer & McColl that erythrasma may cause pruritus ani (2). A total of 81 patients complaining of pruritus ani was investigated and erythrasma was found in 15. These patients had all been under the care of surgeons and dermatologists and were referred for further investigations because of failure to respond to routine treatment and most would be considered to be examples of idiopathic or essential pruritus ani.

MATERIAL AND METHODS

A detailed history is taken from each patient with particular regard to previous local or systemic therapy, family history of worms or diabetes, presence of any skin disease and any previous surgical treatment for anal and rectal disease. The urine is tested for sugar and albumen. The patient is examined by the surgeon who carries out proctoscopy and sigmoidoscopy. The entire skin surface is carefully examined for evidence of skin disease both by natural and ultraviolet light. The authors have found the Hanovia No. 16 ultraviolet lamp is the most satisfactory for this procedure. Scrapings for direct microscopy and material for culture are also taken.

Diagnostic criteria

In order to establish the diagnosis of erythrasma it was considered necessary to find the characteristic changes at the sites of involvement (other than changes observed in the perianal region) and a coral pink fluorescence when the lesions were examined with ultraviolet light.

Skin changes

As well as the toe spaces particular attention was paid to the skin in the axillae, the umbilicus, groins, inner thighs and scrotum, and skin folds of the abdomen in the obese. Scaly, faintly pink involvement was observed in these areas in 15 patients; the details are given in Table I. The appearance of the skin in the perianal region was also noted.

Fluorescence

The details of the sites of fluorescence are given in Table I. It should be noted that not all clinically involved sites showed fluorescence. The variability of fluorescence has been noted previously (3, 4, 6), and for this there are at least two possible explanations. Firstly the organism may vary in its production of fluorescent material on culture; fluorescence is usually found in the culture medium at 72 hours and disappears after 96 hours (7), and a similar process may be taking place on the skin surface. Secondly, the patients, before coming to the clinic, often wash themselves more thoroughly and thus may remove the fluorescent material which is a water-soluble porphyrin (8). Patients who have bathed prior to examination are asked not to wash for 48 hours before subsequent visits and when this rule is observed it has been possible to demonstrate the fluorescence of the lesions.

Positive bacterial cultures

These are not easy to obtain (8, 9). However, in 4 cases *Corynebacterium minutissimum* was grown from the perianal region and from the groins in 3 of these 4 cases.

Treatment

In all cases where clinical and fluorescent findings indicated a diagnosis of erythrasma the following treatment was given: Erythromycin Estolate 250 mg q.d.s. for 10 days, Betnovate lotion to the perianal region and half-strength Whitfield's ointment to other sites of involvement.

RESULTS

Eighty-one cases were examined and in 15 a diagnosis of erythrasma was established. All had characteristic clinical lesions which fluoresced under ultraviolet light (Figs. 1, 2). In 4 cases

1

2

3

4

Figs. 1, 2. Characteristic involvement of the inner thigh and scrotum under natural and ultraviolet light.

Figs. 3, 4. The perianal region under natural and ultraviolet light.

Table I. *Details of 15 cases of Erythrasma*

No.	Sex	Age	Duration (years)	Fluorescent sites: Axillae	Groins, thighs	Umbilicus	Perianal	Toes	Associated conditions	Erythromycin	Result
1	♂	74	20	+	+	−	−	+	—	+	Cured
2	♂	44	5	−	+	−	−	+	—	+	Cured
3	♂	41	1¼	−	+	−	−	+	—	+	Cured
4	♂	54	2½	+	+	+	+	+	Psoriasis	+	Cured
5	♂	49	10/52	−	+	−	+	+	Piles & thrush	+	Cured
6	♂	53	25	+	+	+	+	+	—	+	Cured
7	♂	38	15	−	+	−	+	+	—	+	Cured
8	♂	50	10	−	+	−	+	+	—	+	Cured
9	♂	42	6	+	+	−	+	+	Papillae & piles	+	Cured
10	♂	48	5	−	+	−	+	+	—	+	Cured
11	♂	66	3	+	+	−	+	+	—	+	Cured
12	♂	40	1½	+	+	−	−	+	Fissure	+	Cured
13	♂	52	15	−	+	−	+	+	—	+	Cured
14	♂	63	40	−	+	−	−	+	—	+	Cured
15	♂	38	7	−	+	−	−	+	—	+	Cured

[a] Return of toe space fluorescence.
Case 4, psoriasis responded to Betnovate.
Case 5, haemorrhoids treated surgically, candidiasis responded to Nystatin.
Case 9, haemorrhoids treated surgically.
Case 12, fissure treated surgically.

positive cultures were obtained from the perianal region and 3 of these had positive cultures from the thighs. All 15 patients responded to the treatment outlined above.

After the first 56 cases had been seen, a control series, matched for age and sex and without pruritus ani, were examined for evidence of erythrasma. The incidence in the two groups was: Controls: 0 in 56; Patients: 12 in 56. The difference is clearly significant ($p < 0.01$).

All patients were male; the age range was from 38 to 74, average 50.4 years; duration of the itching was from 10 weeks to 40 years, average duration 10 years 4 months. Details of the cases are shown in Table I.

Fluorescence of the groins, thighs and toe spaces was also present in these 15 cases; 6 had axillary fluorescence, 2 had umbilical fluorescence and 9 had fluorescence of the perianal region (Figs. 3 and 4).

Thorough washing before attending the clinic may have removed fluorescent material in some patients.

Perianal skin changes

The appearance of the perianal skin in the 15 cases varied from mild erythema, maceration with slight excoriation to the marked lichenification, laceration, maceration and excoriation characteristic of severe pruritus ani of many years' duration. There are no changes pathognomic of erythrasma in the perianal region. Perianal fluorescence was present in 9 cases and this finding strongly suggests erythrasma. Confirmation should always be sought by examining other sites for typical lesions.

Treatment

The treatment given was the same for all cases and consisted of Erythromycin Estolate 250 mg q.d.s. for 10 days, Betnovate lotion to the perianal region and half-strength Whitfield's ointment to the remaining sites of involvement. All 15 cases were relieved of symptoms within 2 to 4 days of starting treatment. A further 5 cases not included in this series were treated satisfactorily with Erythromycin Estolate alone.

Follow-up is important and in the present series has varied from 3 months to 3 years. There have been 7 cases of recurrence, associated with a reappearance of fluorescence. All cases with recurrences responded well to further courses of Erythromycin Estolate.

Relapse	Fluorescence	Treated again	Response
No	—	—	—
Yes × 1	Returned[a]	+	Cured
No	—	—	—
Yes × 1	Returned[a]	+	Cured
Yes × 1	Returned[a]	+	Cured
Yes × 1	Returned[a]	+	Cured
Yes × 2	Returned[a]	+	Cured
No	—	—	—
Yes × 2	Returned[a]	+	Cured
Yes × 1	Returned[a]	+	Cured
No	—	—	—
No	—	—	—
No	—	—	—
No	—	—	—
No	—	—	—

DISCUSSION

The association of pruritus ani and erythrasma was first suggested in 1966 (2). The literature revealed one interesting case (1), of a man aged 53 who had had "un prurit anal très vif" present for 10 years associated with a rash on the inner aspect of his left thigh which later appeared on the right thigh. The authors made a clinical diagnosis of erythrasma, confirmed by scrapings from the thigh. Those taken from the perianal region, however, were negative. The authors did not associate the two conditions nor did they discuss the treatment. It seems strange that this association has not been observed more often but there are a number of possible explanations: (*a*) the clinical appearance of erythrasma of the perianal region does not resemble that at any other site (this is, of course, true of many other skin conditions) and (*b*) it is not usual to examine the perianal region with ultraviolet light. Although the perianal skin may not fluoresce in those cases with characteristic involvement of other sites, the results reported here suggest that a course of Erythromycin should be given.

The relapse of patients with erythrasma is high at 46%. Hildick-Smith et al. (5) have commented on the difficulty in eradicating toe space infection even though patients have received systemic Erythromycin. It may well be that reinfection from a persistent source in the toe space is responsible for the high relapse rate and it is, therefore, recommended that prophylactic treatment of the toe space with half-strength Whitfield's ointment should be continued for some time after the pruritus has been relieved.

The multiplicity of factors involved in the pathogenesis of pruritus ani should never be ignored. Successful therapy of intertrigo, psoriasis or erythrasma may be followed by a relapse at a later date which may result from other conditions such as haemorrhoids, contact dermatitis or a secondary candidiasis following topical steroid therapy. It is important, therefore, to establish the cause again in every patient should a relapse occur.

ACKNOWLEDGEMENT

This work was supported in part by a grant from the Herbert E. Dunhill Trust.

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Received January 1, 1971

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