REITER'S SYNDROME
(Review of literature, case report and treatment with methotrexate)

S. S. SAVANT * J. C. FERNANDEZ † M. W. DHURANDHAR ‡ AND R. J. FERNANDEZ §

Summary

A case of Reiter's syndrome occuring in a young male aged 20 years having extensive skin lesions of keratodermia blenorrhagica is presented along with a review of literature. Although urethritis was absent, other clinical and histopathological features of the cutaneous lesions led us to the diagnosis. The possible relationship of pustular psoriasis to Reiter's syndrome is discussed. Failure of the patient to respond satisfactorily to steroids, antibiotics, etc., prompted the use of methotrexate in this case. The result was dramatic, as the patient completely recovered within ten days of starting treatment.

Although Reiter's syndrome is named after Hans Reiter (1316) it was Sir Benjamin Brodie in 1818 who gave the original account of this condition[1]. Reiter's syndrome, also known as Feissinger-Leroy syndrome or conjunctivourethro-synovial syndrome, consists of the classical triad of urethritis, arthritis and conjunctivitis. A fourth feature equally significant, "keratodermia blenorrhagica"[2,3] is also included in the clinical syndrome. Painless buccal lesions and circinate balanitis are other features commonly associated with it. Various other manifestations such as pericarditis, aortic insufficiency, prostatitis, iritis, peripheral neuritis, etc., occur in lesser percentage of patients.

* Registrar

† Honorary Professor & Head of the Department (Retired)

‡ Honorary Professor & Head of the Department

§ Honorary Assistant Professor
Department of Skin & Venereal Diseases, K.E.M. Hospital and Seth G. S. Medical College, Bombay 400012

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Ninety per cent of the cases encountered are young adult males followed by females. The condition is seen rarely in children.

The exact aetiology of Reiter's disease is still not known. Spirochetes[1], gonococci[4], bacillary dysentery[5], mycoplasma[6], and chlamydia[7], auto-immunity[8], genetic predisposition[9], etc. have all been reported to have some etiological role to play in the development of this disease. Some workers consider pustular psoriasis and Reiter's syndrome as two facets of the same disease[10].

Pearson et al[11] were successful in producing a diseae similar to Reiter's syndrome in rats by inoculating them with Freund's adjuvant. Recently there have been reports of significant association of HLA-27 and Reiter's syndrome[12].

Skin histology[13] revealing characteristic "spongiform pustule of kogoj", leukocytosis, elevated E.S.R., roentgenographic changes and examination of urethral discharge and synovial fluid which reveal absence of bacteria may further aid in the diagnosis[1].

No specific treatment[1] exists for this condition. Various drugs such as antibiotics, aspirin, phenylbutazone, indomethacin, corticosteroids, methotrexate, etc. have been tried and also fever therapy all of which have given variable therapeutic responses.

Case Report

A 20 year old unmarried male presented with a history of recurrent pustular rash on glans penis, fever, pain in the joints and attacks of dysentery off and on of one year duration. He had been earlier treated for this with multiple drugs such as antibiotics, aspirin, corti costeroids, etc. He had developed rash all over the body a fortnight before reporting to us. He denied any history of clandestine exposure and showed no signs or symptoms suggestive of urethritis.

Clinical examination of the patient revealed circinate balanitis, asymptomatic crusted pustular lesions on the scalp, axillae, midchest, interscapular region and groins. A few lesions were present on the face, extremities and soles. The lesions both in the axillae and groins had coalesced to form crusted hyperkeratotic vegetative plaques. Erosions were present on buccal mucosa, hard palate and lips. Patient was afebrile and complained of pain in both ankle joints which were found to be slightly tender.

While the patient was being investigated in the ward, he developed severe arthralgia of low back, both shoulders and ankle joints, fever (39.5° C), conjunctivitis, balanoposthitis and fresh crop of skin lesions. Initially the rash appeared as papulopustules which rapidly crusted in 12–24 hours. The crusts were dark brown in colour and continued to accumulate layer by layer in rupial fashion (keratodermia blenorrhagica) within 6–8 days (Fig. 1). Hyperkeratotic papulopustular eruptions on both palms and soles (Fig. 2) with onychia and paronychia of practically all fingers and toes developed simultaneously. (Fig. 3.)

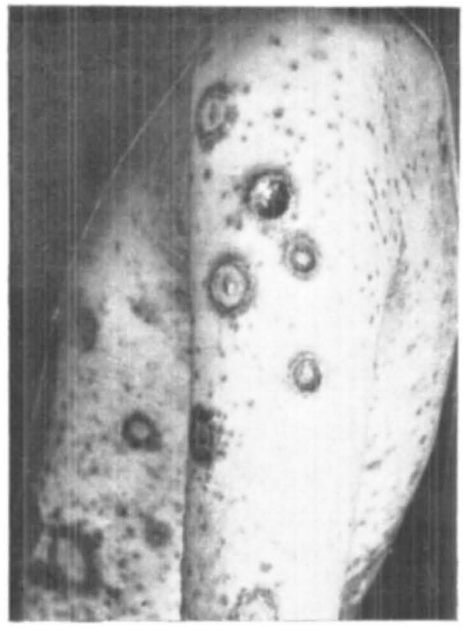

Fig 1 Evolution of the disease from papulo –pustular lesion to crusting and rupial lesions.

Histopathological studies of cutaneous lesion showed hypekeratosis, parakeratosis, acanthosis and a spongiform

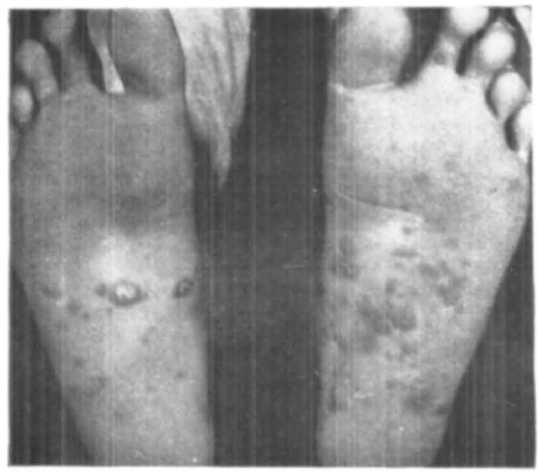

Fig. 2 Lesions on the soles.

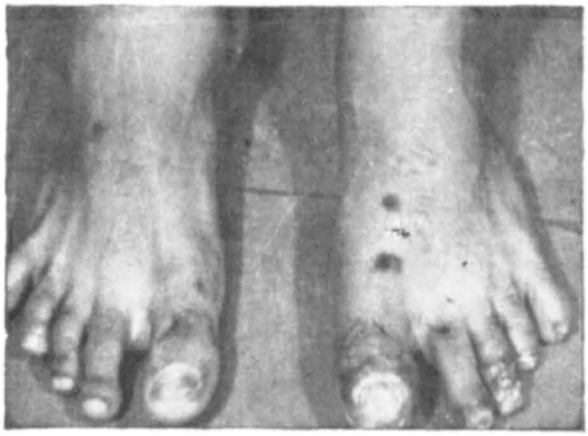

Fig. 3 Nail involvement distinctly seen on left foot.

pustule of kogoj containing many neutrophils in the stratum malpighii (Fig. 4). Dermis showed chronic inflammatory infiltrate consisting of a few lymphocytes and histiocytes. Haemoglobin was 10.2 gm%, E.S.R. 106 mm at the end of one hour (Westergren), Total W.B.C. count 11,500/cmm with differential of N–56%, L-41%, E–1%, M–2% and total serum proteins of 5.94 gm% with albumin 2.88 gm% and globulin 3.06 gm%.

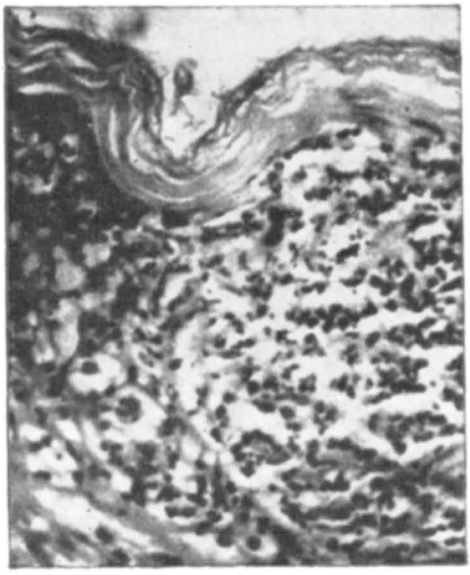

Fig 4 Spongiotic reticular network with many neutrophils. High power view (H & E x 400).

Routine urine, stool and prostatic fluid examinations were normal and culture report of urine, prostatic fluid and pus swab from skin lesion did not reveal any organism. Renal biochemistry and liver function tests were within normal limits and repeated blood V.D.R.L. was nonreactive. Radiological examination of the joints involved was normal and R.A. test was negative. HLA Antigen study revealed HLA–10, W–35, W–21 pattern.

Diagnosis

The diagnosis of Reiter's syndrome was based on the history of repeated attacks of dysentery, clinical signs and symptoms such as keratodermia blenorrhagica, conjunctivitis, arthritis, circinate balanitis, oral mucosal involvement, onychia and paronychia, the acute flare up with fever and histopathology of skin lesions revealing spongiform pustule of kogoj. A possible aetiological role of previous dysenteric infections was strongly considered in this case.

Treatment

A fair trial with aspirin, phenylbutazone, tetracycline, high doses of corticosteroids and other supportive line of drugs was given initially. As the patient had only partial symptomatic relief, he was put on methotrexate 2.5 mg daily orally. The response was dramatic. Practically all the crusted lesions of keratodermia blenorrhagica dropped off, E. S. R. decreased from 106 mm to 40 mm and all the other signs and symptoms improved to the point of cure within ten days. Except for occasional detection of minimal occult blood in the stool which also cleared within two days of stopping the treatment no other toxic side effects of methotrexate were

noticed. The patient improved completely within the next week and was discharged.

Discussion

Catalano[1] states that the presence of any three of the four common manifestations, namely urethritis, arthritis, conjunctivitis and keratodermia blenorrhagica is sufficient to make a diagnosis of Reiter's syndrome. In our case three manifestations were present. Although Reiter's syndrome has a wide spectum of clinical features, it is known that the syndrome can be incomplete in its presentation[9]. Association of the disease with an antecedent apparent infection, either dysenteric or urethral is known[5] and the repeated history of dysenteric attacks in this patient we believe has a possible aetiotogical role in this case. A distinctive histopathological feature of the disease is the presence of spongiform pustule of kogoj[13] which was seen in our patient. A similar histopathological is present in pustular psoriasis and according to Lever[13] it is not possible to distinguish histopathologically the two diseases. Clinically also there exists great similarity between these two conditions and at times both can blend into one. However, hereditary predisposition, history of presence of cutaneous lesion in the past, chronic nature and relatively rare occurrence of oral lesions in psoriasis, aid in differentiating it from Reiter's syndrome where onset is usually acute. If the possibility of pustular psoriasis starting de novo is kept in mind in this case, then the gap between these two diseases becomes very narrow. In fact clinical manifestations such as keratodermia, blenorrhagica, arthritis, etc. could as well form part of pustular psoriasis. In view of our limited experience it is left to the readers to draw their own conclusion as to the possible relationship existing between these two conditions bringing to their notice some of the interesting observations of previous workers. Perry and Mayne[10] have reported two cases which initially presented as Reiter's syndrome and later over the course of years, assumed the characteristics of psoriasis. Sairanon et al[14] have also reported psoriasis in 4 per cent of the cases in their follow up study of 100 cases of dysenteric Reiter's syndrome. Some workers consider keratodermia blenorrhagica[10,15] while others arthritis[16] as connecting links between these two conditions. Mullins et al[17] were so impressed by this similarity and they treated their cases of Reiter's syndrome successfully with folic antagonists which had been found useful in psoriasis. Potter and Fretzin[18] who used methotrexate in doses of 2.5 mg per day noted rapid involution of the disease within two weeks. Since then many workers[19,20] have used methotrexate, successfully in the treatment of this condition. Catalano[1] has indicated its beneficial role in those cases where the clinical picture is more towards "psoriasiform" end of the spectrum. Our case also successfully responded to methotrexate and we feel that methotrexate can be of benefit in acute cases of Reiter's syndrome with widespread and extensive mucocutaneous lesions especially those not responding to corticosteroids; provided the drug is used cautiously.

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