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Methotrexate Treatment of Psoriatic Arthritis

HUGH ZACHARIAE and EVA ZACHARIAE

Department of Dermatology, Marselisborg Hospital, and the Department of Rheumatology, Aarhus Kommunehospital, University of Aarhus, Aarhus, Denmark

Zachariae H, Zachariae E. Methotrexate treatment of psoriatic arthritis. *Acta Derm Venereol (Stockh)* 1987; 67: 270-273.

A prospective study was carried out over 12 months involving twenty-eight patients with psoriatic arthritis. Almost all patients improved dramatically with regard to both pain and function. Clinical assessment including evaluation of number of swollen joints, joint tenderness score, and morning stiffness was performed by external observer without any knowledge of previous evaluation data. These data together with patients' assessment of pain and assessment of general condition, consumption of analgetics, and sedimentation

rate improved significantly after three and six or twelve months. Apart from transient increases in serum transaminases no other abnormalities developed during the study. (Received October 20, 1986.)

H. Zachariae, Dermatologisk Afdeling, Marselisborg Hospital, DK-8000 Århus C, Denmark.

Methothrexate (MTX) has been used in psoriatic arthritis (PA) since 1946, when Black et al. (1) in a double-blind study of 21 patients found the drug effective in suppressing both skin and joint manifestations. Later the beneficial effect has been indicated by retrospective studies (2, 3, 5), while a low-dose multicenter trial did not support the contention that oral MTX was effective in PA (12). Recent studies have suggested that MTX is effective for rheumatoid arthritis (8, 10, 11).

We have followed up our previous retrospective study on 59 consecutive patients (6) treated from one to eleven years, in which in 22 the signs of inflammatory joint disease almost disappeared, with the present prospective investigation.

PATIENTS AND METHODS

Twenty-eight patients, 17 males and 11 females aged 18 to 80 years (mean 42 years) all suffering from psoriasis and seronegative arthritis were included in the study. All patients had roentgenological changes. Twelve had classic PA involving the distal interphalangeal (DIP) joints, 18 had sacroileitis. Patients with seronegative symmetrical polyarthritis and psoriasis and patients with spinal involvement were not excluded. Two patients were B27 positive. Twenty-four patients had psoriasis vulgaris and 3 had pustular psoriasis.

All patients had normal liver- and kidney function tests and normal leukocyte-, differential-, and thrombocyte counts. All had liver biopsies performed during the study. Weekly control of leukocytes, thrombocytes and SGOT were done for 3 months, followed by monthly controls. A sedimentation rate (ESR) was performed monthly.

Salicylates, phenylbutazone and often oxyphenbutazone were not allowed during the study. Other non-steroidal antiinflammatory agents, already in use by the patients, were permitted, and their consumption registered as aspirin count according to Lansbury (7). Oral MTX was given by the intermittent dosage schedule, 5 mg every 12 h in 3 consecutive doses once a week.

Clinical assessment of arthritis (7) was performed by one of us (E. Z.) as external observer before, after 3, and after 6 or 12 months. Each observation was done without any knowledge of previous evaluation data. Observer assessment included: 1) number of swollen joints, 2) joint tenderness score (Ritchie index), 3) morning stiffness (percentage according to Lansbury). Pain assessment was made by the patient and evaluated on a visual analogue scale (0-7.5 cm). The general condition was also a patient assessment graded 1 to 5.

Table I. ESR and clinical evaluation (7) in 28 patients with psoriatic arthritis treated with MTX, before and after 3 months and 6 or 12 months after start of treatment

Evaluation±SE	Before	3 months ^a	6 or 12 months ^a
1. ESR	43±6	17±3	17±4
2. No. of swollen joints	8.5±0.7	2.9±0.7	2.3±0.6
3. Joint tenderness score	11.5±1.3	3.5±0.6	2.0±0.5
4. Morning stiffness	12.5±2.4	3.4±1.2	2.4±0.9
5. Grip strength	10.8±1.6	6.0±1.6	6.8±1.6
6. Analgetic consumption	9.6±1.5	4.1±1.4	3.6±1.4
7. Pain assessment	3.8±0.3	1.6±0.3	1.3±0.3
8. General condition	3.2±0.2	2.3±0.2	1.4±0.2

^a All parameters were significantly improved after 3 and 6 or 12 months. Statistical significance was assessed using Wilcoxon's test for two samples. A *p*-value below 0.05 was considered significant.

RESULTS

Almost all patients improved dramatically with regard to both pain and function. Improvement began 2 to 6 weeks after institution of therapy and was registered by the external observer after 3 and 6 or 12 months and ESR decreased (Table I). No significant improvement was seen in X-rays during the study, although healing of erosions could be found in individual patients. No patient had to discontinue the study. Apart from transient increase in SGOT no other abnormalities in laboratory data developed during the study.

COMMENTS

The results of the treatment argue that MTX should continue to play an important role in the medical management of PA. In comparison with the recent multicenter study (12) our dosage was in all cases 15 mg per week, while most patients in the multicenter trial received only 7.5 mg per week. In the latter study MTX was superior to placebo only in physicians assessment of arthritis activity. This indicates the importance of an adequate dosage. Our investigation is in agreement with our previous retrospective study (6) and with the favourable results also recorded in rheumatoid arthritis (8, 10, 11).

Although no patients of the present study had to discontinue MTX, the drug should be given with caution and the patient monitored carefully as adverse reactions may be seen. Rheumatologists may be advised to use the experiences gained from the use of MTX by dermatologists in psoriasis (9, 13). In long-term studies special attention should be given to liver toxicity (14). It is also mandatory that patients should be aware of drug interactions. Salicylate, phenylbutazone, and oxyphenbutazone should be avoided. These drugs displace MTX from plasma protein binding and compete for active renal tubular secretion and thereby increase the risk of toxicity (4). The same applies for sulphonamides, especially if combined with trimethoprim. In dosages used for PA altered toxicity due to similar interactions is otherwise rarely clinically significant (9). Other types of concomitant therapy which should be avoided are combinations with other cytotoxic drugs and systemic corticosteroids.

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