INDIAN J DERMATOL VENEREOL LEPR VOL. 48, NO. 6, 1982

PULSE THERAPY WITH DEXAMETHASONE IN REITER'S DISEASE
(A Case Report)

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Summary

A patient having Reiter's disease manifesting as fever, arthritis and skin lesions failed to respond to adequate treatment with oxyphenbutazone, prednisolone, tetracycline, methotrexate, levamisole and haemodialysis in various combinations. Pulse therapy, however, consisting of intravenous infusions of 140 mg dexamethasone in 500 ml of 5% glucose on 3 consecutive days every month led to a dramatic improvement. The patient who was earlier bed-ridden because of arthritis, was able to walk back home within 6 months. The side effects of systemic corticosteroids with this mode of treatment were far milder compared to the usual mode of therapy in spite of a much higher dose being used during pulse therapy.

KEY WORDS: Pulse therapy; dexamethasone; Reiter's disease.

Introduction

Pulse therapy with corticosteroids which essentially consists of giving very high dose of a corticosteroid over a very short period, has earlier been used with beneficial results in patients having renal transplant rejection[1,2], lupus nephritis[3-5], polyarteritis nodosa[6], rheumatoid arthritis[7] and pyoderma gangrenosum[8]. We are reporting our experience in a case of Reiter's disease where 'pulse' therapy with dexamethasone brought about a dramatic improvement after other methods of treatment were found ineffective.

Case Report

At the age of 16 years, a 34-year-old accountant noticed pain and swelling of his right knee joint. He started taking acetylsalicylic acid tablets 2 gm a day and improved, but during the next 3 to 4 weeks both his ankles and left knee also became swollen and painful. Continuation of acetylsalicylic acid led to the disappearance of the symptoms. At the age of 17 years he felt dull ache in his lower back and at 19 years his neck became painful. This pain in the back and neck continued during the next 5 years with fluctuations in the intensity, and he also noticed restriction of the movements of the cervical spine. At that stage, the diagnosis of ankylosing spondylitis was considered and he was treated with infra-red rays, short-wave diathermy, wax baths and acetylsalicylic acid for variable lengths of time with symptomatic improvement. In 1978, at the age of 30 years, the patient developed bilateral pulmonary tuberculosis which was treated with ethambutol 800 mg daily and isonicotinic acid hydrazide 300 mg daily for 1½ years.

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Received for publication on 8—9—1982.

In July 1980, he developed pain, swelling and redness in his right knee. He started taking oxyphenbutazone 300 mg daily but during the next month he noticed an eruption of asymptomatic, multiple, heaped-up crusted lesions of varying sizes all over the body. During the next 3 months all his complaints became worse. In October 1980, he was admitted in our ward. He denied any history of extramarital exposure, any disturbance of micturition, dysentry or photophobia. At that time, almost all his big and small joints became painful and swollen and he started having fever while his skin lesions increased in size and number. Patient also developed a circinate indurated plaque approximately 1 cm in size on his glans penis, which cleared in 2 weeks following local treatment with soframycin. He had become very thin with atrophy of almost all the muscles. The fever continued to recur and he was very toxic. All the joints became swollen and tender with severe restriction of the movements. X-rays of the spine and all the joints were consistent with the diagnosis of ankylosing spondylitis. Biopsy from the skin lesion was compatible with psoriasis. Urethral scrapings for Chlamydia, stools for ova, cysts and culture for bacilli were negative. HLA typing was positive for B-27. A diagnosis of Reiter's disease was made. Treatment with oxyphenbutazone 100 mg daily along with prednisolone ranging from 15-45 mg daily and local applications of 6% coal tar in vaseline for about 6 months, tetracycline 2 gm daily for 14 days, methotrexate 7.5 mg 12-hourly 3 doses per week for 6 weeks, levamisole 150 mg daily 3 days in a week for 7 months along with phenylbutazone 600 mg daily and haemodialysis weekly for 5 weeks, acetylsalicylic acid 3 gm daily along with prednisolone 15 mg and oxyphenbutazone 300 mg daily for 7 months were unsatisfactory. On August 31, 1981, patient had a severe bout of haematemesis which compelled us to stop all the medicines and patient was kept on antacids only. In October, 1981, cyclophosphamide 100 mg daily and dapsone 100 mg daily were started with only a slight improvement in the symptoms. In fact his condition had become quite desperate, he had become confined to the bed because of immobility and severe pain in most of his joints, the skin was covered all over with crusted lesions, he was continuing to have fever, and the response to various treatment schedules was most unsatisfactory. At that stage in November, 1981, it was decided to try dexamethasone 'pulse' therapy on him. This consisted of 140 mg dexamethasone in 500 ml of 5% glucose transfused over an hour on 3 consecutive days. Dapsone and cyclophosphamide were continued. On the last day of the dexamethasone 'pulse', his fever which used to be 104°F came down to normal. The pain in the joints improved by 30%, the skin lesions by 10%, which regressed further by 70% on the 3rd day after 'pulse'. On the 9th day after 'pulse', however, his skin lesions increased again to 90% of the 'pre-pulse' level, the temperature rose to 101°F and remained almost constant thereafter, but there was no further deterioration in the joint pains. All the same, this improvement in the condition of the patient was much welcome and encouraging. The dexamethasone 'pulse' was therefore, repeated after a month. This led to further improvement of the joint pains by 50% and the skin lesions by 90% of the 'pre-pulse' level, and the temperature came down to normal on the 3rd day. However, on 9th day, he again developed a relapse which was severer compared to the relapse after the first 'pulse'. His temperature once again rose to 106°F and persisted at that level during the next 7 days. At this juncture indomethacin 600 mg daily in

divided doses was added which led to complete subsidence of the fever which never recurred in subsequent relapses. Subsequently, with each 'pulse' there was progressive reduction in the skin lesions and joint pains. Simultaneously, physiotherapy was initiated to strengthen his muscles and open up the joints. After the 6th 'pulse', there was no pain in the joints and only 10% of the skin lesions relapsed and he was able to sit and walk a few steps with support. Cyclophosphamide and dapsone were stopped on April 1, 1982 and patient was sent home on indomethacin 600 mg daily along with antacids. Further courses of 'pulse' therapy were given at monthly intervals. Patient continued to show progressive improvement after each 'pulse'. After the 9th 'pulse,' he was able to walk much faster and better, but still needed the support of a stick.

Discussion

Earlier workers had used varying regimes for 'pulse' therapy. Bell et al[1] used 1 gm of prednisolone in 200 ml of 5% dextrose given intravenously over a period of 2 hours for 1–3 doses depending on the condition of the patient, Feduska et al[2] used methylprednisolone 30 mg/kg in 200 ml of 5% dextrose over one-half hour for 3 – 4 doses, Cathcart et al[3], Levinsky et al[4] and Ponticelli et al[5] used 1 gm methylprednisolone intravenously for 3 consecutive days. Neild and Lee[6] used 30 mg/kg of methylprednisolone intravenously on alternate days for 4 doses, while Liebling et al[7] used 1 gm methylprednisolone intravenously over 45 minutes for only one day per month for 6 months. All the workers have reported beneficial results. Our choice for 140 mg dexamethasone daily for 3 consecutive days was arbitrary and the result was highly beneficial. In a patient where almost all the known methods of treatment had virtually failed, 'pulse' therapy was able to bring about a remarkable result. Ever since, we are using 'pulse' therapy in some other diseases as well, notably pemphigus with beneficial results. Apart from the improvement in the condition of the patient, the side effects following 'pulse' therapy appear to be significantly milder in spite of the doses being much higher than those used routinely. Increase in the body weight has been insignificant and there has been only a mild rise in blood pressure and blood sugar levels (120 mg to 190 mg) following 'pulse'. Both these values, however, would return to normal the next day. Other side effects such as electrolyte imbalance, osteoporosis and peptic ulceration were not seen. Another advantage of 'pulse' therapy seems to be that the hospital stay of the patient can be remarkably reduced, and the patient needs to be admitted for only 3 days at a time.

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