The Effect of Triamcinolone on Psoriatic Arthritis—A Two Year Study

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Triamcinolone was found effective in suppressing both the cutaneous and articular manifestations of psoriatic arthritis. Side effects were frequent and in some instances serious. The ameliorative effects of this steroid were temporary, and eventual relapse of the manifestations usually occurred.

Esseva trovate que triamcinolona es efficace in le suppression del manifestationes tanto cutanee como etiam articular de arthritis psoriatic. Le effectos lateral esseva numerose, in certe casos serie. Le effectos amelioratori de iste steroide esseva transiente. In le majoritate del casos, recidiva del manifestationes occurreva in le curso del tempore.

THE USE of triamcinolone (9 alpha-fluoro, 16 alpha-hydroxyprednisolone) in the treatment of rheumatoid arthritis was studied and documented by Hellman,[1] Freyberg[2] and their co-workers over the past three years. Their studies of effects, side effects and dosage requirements left little to be added, and our own studies on 27 rheumatoid arthritic patients treated with this steroid merely confirmed their earlier reports. Among the new side effects noted from administration of triamcinolone were increased perspiration, marked flushing, dryness and loss of elasticity of the skin, and a greater degree of hirsutism than that resulting from any other corticosteroid. Together, these effects suggested an increased affinity of triamcinolone for cutaneous tissues.

The special effect of triamcinolone to be reported here was discovered quite by accident in January, 1957. A 52 year old woman, who had suffered widespread unremitting psoriasis for 41 years, and steadily progressing rheumatoid arthritis for 36 years, had received fairly large doses of corticosteroids for 6 years with fair control of joint symptoms but without effect on her psoriasis. Because of persistent edema she was given triamcinolone, 16 mg./day, in place of her usual prednisolone, 20 mg./day. Within a week she called the clinic to question whether we had expected the new drug to clear up her psoriasis for the first time in 41 years. Initially we regarded this as a coincidence, but continued the drug for a month, noting complete skin clearing. Prednisolone was then substituted, and the psoriasis reappeared in a week, only to heal again within two weeks after restarting triamcinolone. Joint symptoms seemed better controlled on triamcinolone also.

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This chance observation prompted our clinical study of triamcinolone in 17 patients with psoriatic arthritis about which a preliminary report was presented previously,[3] and also a larger study of the effect of triamcinolone on psoriasis and other skin conditions by our dermatologist colleagues.[4]

The present account is a long-term report on the original series of 17 patients with psoriasis and arthritis who have now received triamcinolone continuously for two years. An additional 18 similar patients who have been observed by us for shorter periods will not be reported in detail since the findings in them add relatively little.

Clinical Material and Method

The original group of patients started on triamcinolone for psoriatic arthritis in the spring of 1957 consisted of 17 persons. The 11 women and 6 men ranged in age from 26 to 74 years. All had multiple joint involvement, and 11 showed arthritis of terminal joints of fingers and/or toes. The arthritis had persisted from 6 months to 36 years, with an average duration of 8½ years. Fourteen patients showed widespread psoriasis of scalp, trunk and extremities, and 13 of these showed psoriatic lesions of the nails. In 3 patients the psoriatic lesions were limited to the elbows and knees. The psoriasis had existed for an average of 16½ years, ranging from 6 months to 41 years since onset.

While the type of joint involvement in all cases resembled the soft, tender swelling of rheumatoid arthritis, none of the sera from the 17 patients showed a positive test for rheumatoid factor either in our laboratory or that of McEwen.[5] The erythrocyte sedimentation rate was moderately to markedly elevated in 15 of these patients at onset of the clinical trial.

The patients acted as their own controls. Eleven had been taking prednisone or prednisolone for at least several months previously, but in the other 6 the triamcinolone was the first steroid used. In the patients who had been receiving another steroid, the triamcinolone was substituted in slightly smaller daily doses and without comment about possible effects on psoriasis.

In the others the starting dose of triamcinolone was 8 to 10 mg./day. Later adjustments of dose were made in increments or decrements of 2 mg./day, depending on effectiveness and occurrence of side effects.

Results

Short-Term Effects

A summary of effects of triamcinolone administration on the psoriasis and arthritis of these patients is presented in table 1. Nine of the 17 showed virtually complete clearing of psoriatic skin lesions within the first two months of triamcinolone administration. The improvement was manifest to the patients within the first week by a decrease in itching, burning and scaling of the lesions, but it was usually two weeks before definite clinical evidence of clearing could be detected. Older lesions cleared more slowly than recent ones, and some new lesions appeared in a few patients even while others were clearing. Erythema, crusting and keratosis disappeared rapidly during the second two weeks of therapy. In most instances larger lesions healed diffusely rather than from the center outward. The healed areas were somewhat pinker than the surrounding skin, as shown in the figures (figs. 1*A*, *B*, *C*, *D* and 2*A*, *B*).

In three additional patients the amount of healing was more than 75 per cent of involved skin area within the first two months of triamcinolone administra-

tion, and one additional patient showed more than 50 per cent clearing in this period. While three others showed some clearing in the same period, the degree of 20 per cent to 30 per cent was not considered significant, and in the last patient no clearing at all was noted. Increase of dose, in some instances even up to 20 mg./day, added little to the beneficial effect in these patients.

Lesions of the scalp and face seemed to heal at about the same rate as lesions on the trunk and extremities (fig. 3*A* and *B*).

Psoriatic nail changes of fingers were slower in healing, often requiring several months (fig. 4*A* and *B*), and lesions of the feet and toenails (fig. 5*A* and *B*) took three to four months to show signs of healing, with complete clearing taking up to six months.

In all but two of the patients the arthritis was better controlled by triamcinolone therapy than any previous treatment with either steroids or other measures. Marked decrease in pain, stiffness and swelling were noted even within the first few days of therapy, and functional improvement in all 15 of these was definite and sustained. The improvement in the patients on steroid for the first time was comparable with that seen with other steroids but the amount of arthritic improvement in the others was also surprisingly marked on change to triamcinolone. An example of the decrease in finger swelling after 1 month of administration is shown in figure 2*A* and *B*. The two patients who noted less effect on the arthritis from triamcinolone than from prednisolone were changed again to the latter at their own request. On resumption of prednisolone administration in both patients, the arthritis improved, but the psoriasis relapsed promptly, temporarily even worse than before triamcinolone, gradually improving to about the previous state in a month.

Short-Term Side Effects

Side effects from triamcinolone therapy were frequent, and often prompt in appearing. Usually they were fairly mild, and although annoying, detracted little from the enthusiasm of the patients whose arthritis and psoriasis were improved. Side effects were only a partial reason for wishing to return to prednisolone therapy in one patient.

Edema was not a problem in any patient. Anorexia of at least mild degree was noted in the majority, and weight loss was the rule. Some frequency of urination was noted by many at onset of triamcinolone administration, and constipation was somewhat persistent in 12.

After the first month of therapy these symptoms were less obvious and troublesome. Moon face to a greater degree than that produced by other steroids was noted in four patients, and marked moon face developed in one woman who had not had previous steroid.

Five patients complained of annoying flushing of the face and neck, at times even with a burning sensation, and accompanied by increased perspiration. Two patients developed acne in place of the clearing psoriasis. Dryness of the skin became manifest in three patients.

Hirsutism to a greater degree than from other corticoids was noted in seven of the women within the first six months of triamcinolone therapy, and in-

Table 1.—*Triamcinolone in Psoriatic Arthritis for Two Years*

Case, Sex, Age	Duration* of Psor.	Duration* of Arth.	Previous therapy	Condition at onset of clinical trial	Starting dose/day (mg.)	Short-Term Effects: Psoriasis	Short-Term Effects: Arthritis	Short-Term Effects: Side effects	Status at end of first year	Status after 2 years: Psoriasis	Status after 2 years: Arthritis	Status after 2 years: Side effects
1. S. S., F, 52	41	36	Ster.‡ 20 mg./d.; Pred-lone 7 yr.	Psor.‖ severe, over scalp, extr., trunk, nails; arth.‖ St. 3, Cl. 3 (multiple joints)	16	Entirely cleared by 3 wk.	Cl. 2, better than on pred.	Moon face incr., flushes, sweats, loss of 5 lb.; purpura increased	Psor. back 50%; joints still better than on prev. ther.; side effects less—dose still 16 mg.	Still 50% better, nails all cleared, extr. imp.	Cl. 2, still less than when on pred. no new jts.	Moon face ++; purpura ++, 12 lb. loss; dose 16 mg. *Satisfied*
2. A. H., F, 71	10	2	Predni.§ 15 mg./d. 3 mo.	Psor. mod.: legs, arms, body; arth.: St. 2, Cl. 2 (fingers, knees)	16	Old lesions faded, several new lesions, 4 wks; 90% cl., 8 wk.	Cl. 1—no joint signs	Sweats, dry skin, leg cramps—mild, 4 lb. loss	On 8 mg.—relapse of psor., arth. Cl. 1. Up to 12 mg., psor. 50% better	(12 mg.) 30% better than start	Cl. 1, only ½ hr. a.m. stif.	Dry skin, 10 lb. loss *Satisfied*
3. J. V., M, 40	16	14	Butazol.§ 300 mg.	Psor. severe: nails scalp, body, extr. arth.: St. 2, Cl. 2 (terminal jts.)	10	No change	Cl. 2—sl. impr.** only	Anorex., weakness, 9 lb. loss‡‡	Psor. not impr.; arth.: Cl. 1 on 12 mg., then relapse to Cl. 2	25% impr. (from Rx?) *Failure*	Cl. 1, on 12 mg.	Moon f. ++, flush; *Satisfied* (Arth.)
4. M. M., F, 49	10	3	Pred-lone 15 mg./d. 5 mo.	Psor.: elbows, knees; arth.: St. 2, Cl. 2 (fingers, wrists, knees)	14	30% clearing in 3 wk.	Cl. 2, sl. impr.	Constip., moon face, nausea; stop 6 weeks, restarted	Pep. ulcer, healed while on 8 mg.; arth. Cl. 1, psor. 30% impr.	50% better (8 mg.)	Cl. 1, no jt. swell.	Moon f. ++, hirsut. ++; *Satisfied*
5. R. S., M, 26	5	6†	No prev. therap.	Psor.: severe—scalp, trunk, extr., nails; arth: St. 2, Cl. 2 (distal jts., toes & fingers, wrists, shoulder)	10	75% clearing in 2 wk.; 95% clearing in 6 wk.	Cl. 1, no joint signs	Sl. epigastr. distr. (no ulcer found); acne on back	Psor. 75% clear; arth. Cl. 1 on 10 mg.	Relapse to 25% of prev. state even on 12 mg./d.	Cl. 1, only sl. a.m. st. (nails OK)	8 lb. loss sl. acne *Satisfied* on 10 mg.
6. R. W., F, 74	20	1	Predni. 10 mg./d. 7 mo.	Psor. mild: elbows, knees; arth: St. 2, Cl. 2 (fingers, wrists, shoulders)	8	25-30% cleared in 4 wk.	Cl. 2, not as good as on pred.	Anorex., weakness, 2 lb. loss	Drug stopped after 2 mos.—back to pred-lone, psor. relapsed, jts. impr.			

7. M. P., F, 74	14	15	Predni. 10 mg./d. 2 yr.	Psor.: nails, scalp, extr., trunk—severe arth.: St. 3, Cl. 3 (fingers, wrists, knees +)	8	50% clearing in 4 wk.	Cl. 2, (impr.<††)	Constip., 4 lb. loss; stopped 3 mo. (pred.), then restarted on 8 mg.	Arth. Cl. 2, impr.; psor. 80% cleared; hirsutism +++, constip.	Relapse to starting status	Cl. 2, "Best drug yet for arthritis"	Hirsutism, constip.; *Satisfied*
8. E. P., M, 63	9†	12	Ster. 7 yr., Pred-lone 15 mg./d.	Psor.: mod.: nails, scalp, trunk, extr. arth.: St. 3, Cl. 3 (multiple jts.)	14	90% clearing in 4 wk.	Cl. 3, but more pain & swell.	None, but stopped drug (back to pred.) for arth. effect; psor. relapsed				
9. J. L., F, 40	22	8	Pred-lone 15 mg./d. 2 yr.	Psor.: severe, extr. scalp, trunk, nails; arth.: St. 2, Cl. 2 (fingers & toes, distal jts., knees)	12	40% clearing in 3 wk.; 80% clearing in 8 wk.	Cl. 1, no joint symptoms or signs	Flushing, sweats moon face ++; 50% relapse, 3 mo. (after stress), hen incr. dose	Regained 80% clearing of psor. on 14 mg.; arth. Cl. 1. hirsutism ++, purpura ++	Gradual relapse to 50% of start	Cl. 1, only sl. stiffness on 10 mg.	Hirsute ++, purpura, flushing, *Satisfied*
10. M. R., M, 43	21	18	Pred-lone 15 mg./d. (pep. ulc.)	Psor.: mod.—nails, extr., trunk; arth.: St. 3, Cl. 2 (fingers & toes, distal jts., knees, wrists, etc.)	12 to 16	No change in 4 wk.; 95% cleared in 10 wk.	Cl. 1, much less swell., pain	None: peptic ulcer entirely healed while on drug	Psor. 80% clear, arth. Cl. 1	Relapse to only 25% over start (4 mg./d.)	Cl. 2 osteopor. with verteb. fract.	Osteopor., severe
11. A. S., F, 60	33	1	No ster. gold salts (chronic nephritis)	Psor.: severe, extr. trunk, scalp, nails; arth.: St. 2, Cl. 2 (fingers & toes, distal jts., knees, wrists, etc.)	12	95% cleared in 4 wk.¶	Cl. 1, no joint symptoms or signs	Mild anorex., moon face +, sl. incr. B.P.	One episode of renal involvement: BUN 76 psor. 95% clear; arth. Cl. 1 only sl. stiff.	80% clear (19 mo.)	Cl. 1 (19 mo.)	Uremia & death after 19 mo.; no autopsy
12. L. J., F, 42	25	25	Ster. 6½ yrs.—all types	* Psor.: severe, scalp, trunk, extr., nails; arth.: St. 4, Cl. 3	18	No change in 6 wk.; 20% improved in 12 wk.	Cl. 2, less swell. and pain	Anorex., nausea, weakness, constip., incr. B.P.	Relapse of arth. on pred., restarted; psor. 25% impr., arth. Cl. 2	No benef. effect on psor.: Failure	Cl. 2, best control by any ster.	Flushing +, 10 lb. loss *Satisfied*

Footnotes to table 1 appear on following page.

Table 1.—*Continued.*

13. A.B., M, 43	20	10	Pred-lone 15 mg./d. 2 yr.	Psor.: severe—nails scalp, trunk, extr.; arth.: St. 3, Cl. 3 (fingers, distal jts., knees, ankles, etc.)	14	50% cleared in 3 wk.; 75% cleared in 4 wk., then relapse	Cl. 2, much less swell. & pain	Constip., flushing, mild, 6 lb. loss	Relapse off ster.; re-started & regained; 75% clearing, arth. Cl. 2	(on 12 mg.) relapse to start. status	Cl. 2, but more than at 1 yr.	Flushes, moon face
14. S. C., M, 26	10	7	No recent ster.	Psor.: mod.—scalp, extr., trunk, nails; arth.: St. 2, Cl. 2	6 to 8	90% cleared in 4 wk.	Cl. 1, little pain	Sl. constip., mild acne, hirsutism, leg cramps	Psor. 75% clear; arth.: class 1; no marked side effects	Slow relapse to starting status	Cl. 1 on 4-6 mg.	Arth. good; *Satisfied*
15. N. M., F, 30	23	4½	No ster.	Psor.: mod.—scalp, nails, trunk, extr.; arth.: St. 2, Cl. 2 (knees, wrists, fingers)	10 to 12	90% cleared in 3 wk.¶	Cl. 1, much less stiffness, no swelling	None except sl. wt. loss	95% cleared on 8 mg.; arth. still Cl. 1	60% impr. over start. status	Cl. 1	Minor; *Satisfied*
16. S. B., F, 35	6†	6†	Pred-lone 15 mg./d. 3 mo.	Psor.: severe—scalp, nails, extr., trunk; arth: St. 1, Cl. 3 (ankles, toes, fingers)	14	95% cleared in 3 wk.¶	Cl. 1—all joint swelling gone	Moon face 2+, hirsutism 2+	Psor. 80% clear, arth., Cl. 1	50% impr. over start.; nails OK	Cl. 1 no signs	Moon face, hirsutism; *Satisfied*
17. C. S., F, 66	9	9	No prev. ster.	Psor.: severe—extr., scalp, trunk, nails; arth.: St. 2, Cl. 3 (distal jts., fingers, knees, ankles)	10	60% clearing in 2 wk.; 80% cleared in 6 wk.	Cl. 1, impr.<	Sl. anorex., naus. and constip. at onset only	Psor. 80% clear, arth. Cl. 1 on 12 mg./day	On 8 mg. 25% impr. over start.	Cl. 1 on 8 mg.	Moon face, hirsutism; *Satisfied*

*In years, unless otherwise noted.
†Given in months.
‡Ster. = steroid.
§Butazol. = butazolidin; predni. = prednisone.
‖Psor. = psoriasis; arth. = arthritis.
¶See color plates.
**Sl. impr. = slight improvement.
††Impr.< = much improved.
‡‡Up to 20 mg. drug given to this patient.

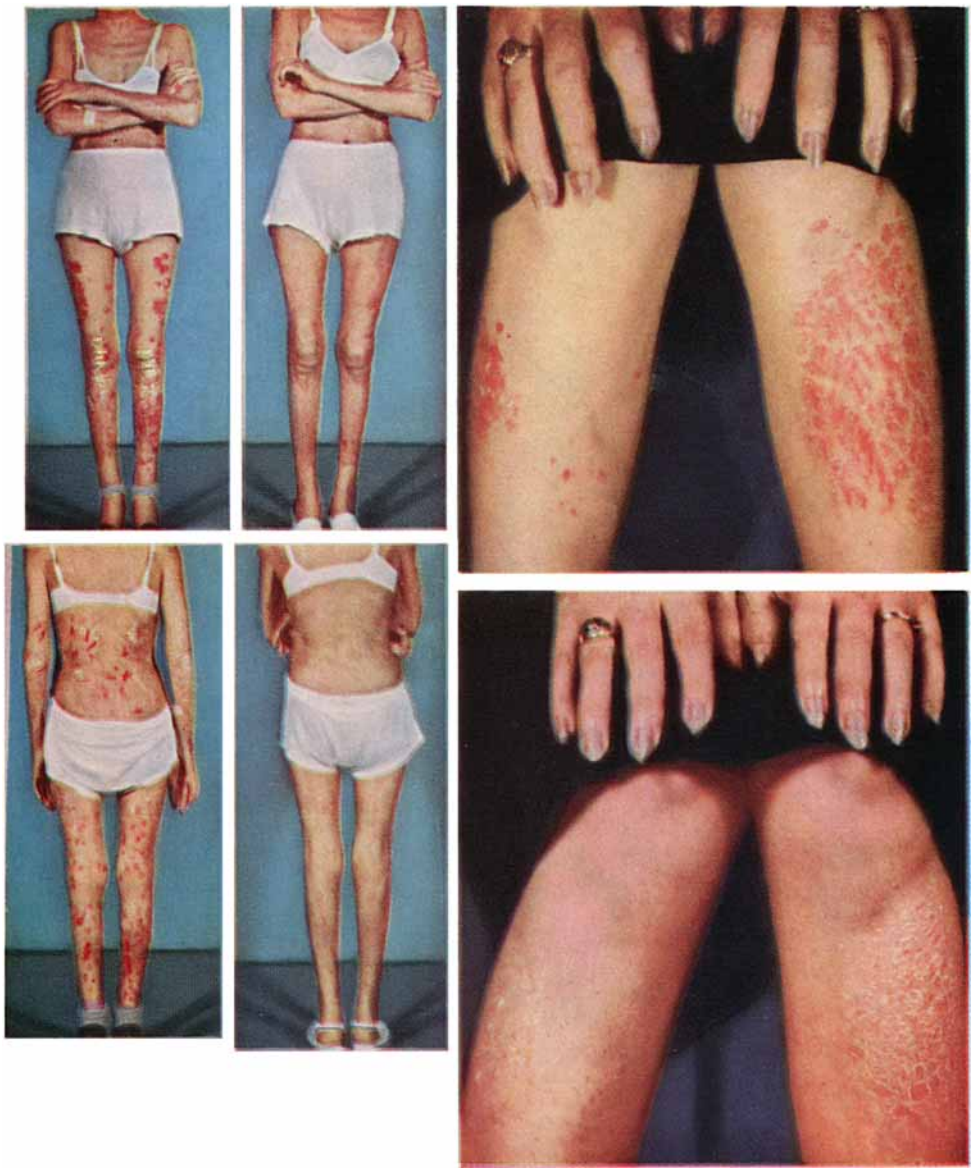

Fig. 1.—(Case 11) *A (top, left)* and *C (bottom, left)*, front and rear views showing psoriatic lesions and arthritic swelling of knees before starting triamcinolone. *B (top, middle)* and *D (bottom, middle)*, front and rear views after five weeks of administration of triamcinolone. Note also decreased knee swelling.

Fig. 2.—(Case 15) *A (top, right)*, psoriatic lesions on legs, swelling of right index proximal interphalangeal joint, and left third distal phalangeal joint before starting triamcinolone. *B (bottom, right)*, same areas after three weeks of triamcinolone therapy.

creased rate of beard growth and darkening of the beard was noted in three of the men.

Muscle cramps and weakness were noted by a few patients, but usually these were mild. No peptic ulcers developed during the first six months,

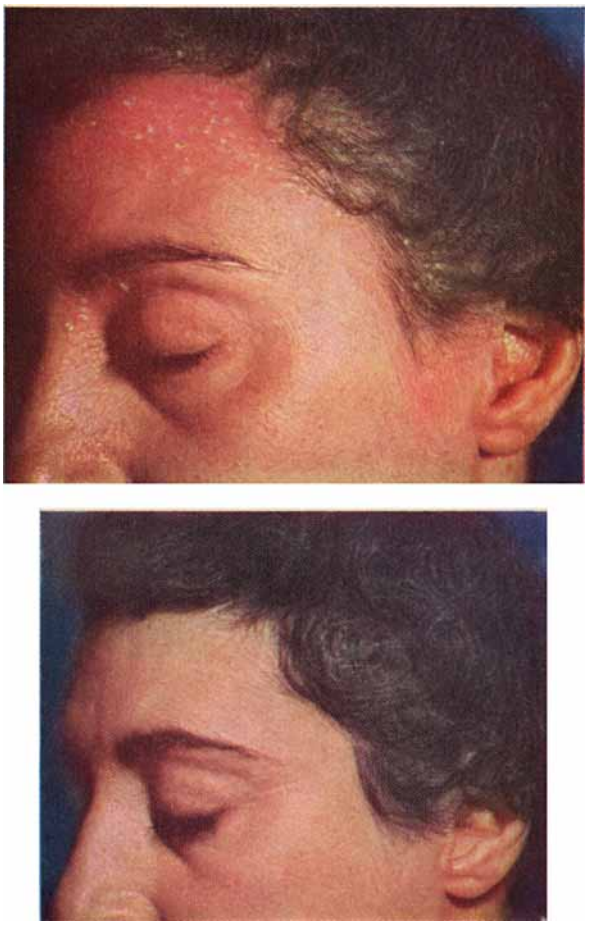

Fig. 3.—(Case 16) *A (at top)*, psoriasis of face, scalp and ear before triamcinolone. *B (at bottom)*, clearing of lesions after three weeks on triamcinolone.

and one patient who had developed a duodenal ulcer while on previous prednisolone therapy showed healing by x-ray and clinical signs while receiving triamcinolone. One patient had epigastric distress during the first few weeks of therapy, but x-ray studies were negative, and the symptoms disappeared completely on administration of antacids.

Two patients showed slight increase in blood pressure on triamcinolone, but this was not sustained for more than a few weeks. Four patients developed purpuric spots on their arms and legs.

Status of Patients 1 Year After Starting Triamcinolone

Within the first year it became apparent that some of the 15 patients still on triamcinoline were experiencing partial relapse in the psoriasis in spite of continued administration in regular or even somewhat increased dose. This was obvious in only three patients, but a few more felt there was slight return of the skin irritation. Periods of stress, usually in the winter months, preceded

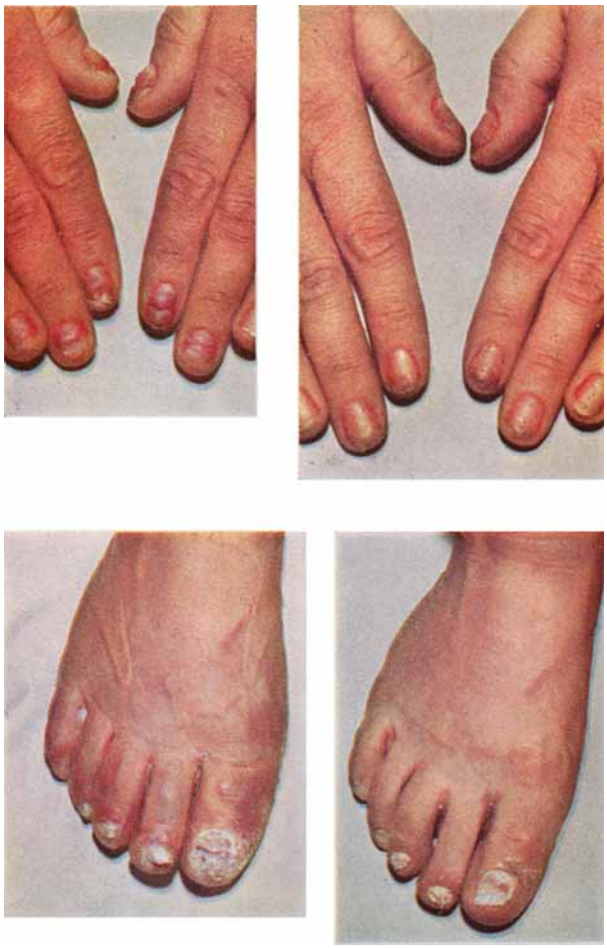

Fig. 4.—(Case 16) ***A (top, left)*****, psoriatic changes of fingernails before triamcinolone.** ***B (top, right)*****, nails after six weeks' triamcinolone therapy.**

Fig. 5.—*A (bottom, left)*****, toes of same patient showing psoriatic nails and swollen terminal joints before starting triamcinolone.** ***B (bottom, right)*****, after six weeks of triamcinolone administration.**

the relapses, and increasing the dose of triamcinolone had little effect in regaining control.

In five patients the triamcinolone administration was interrupted during the first year for one reason or another, and relapse in psoriasis and arthritis was prompt and troublesome. Those who substituted prednisolone experienced little relapse in arthritis, but the psoriasis relapsed severely. Reinstitution of triamcinolone regained a major portion of the previous improvement in most instances.

One patient (case 4) developed a peptic ulcer after eight months of triamcinolone, but this showed complete symptomatic and x-ray healing in two months on an ulcer regimen and continued triamcinolone therapy. Another patient (case 11) who had chronic nephritis (which had first developed

while on gold salt therapy two years before) showed oliguria and increasing proteinuria, mild hematuria and a rising urea nitrogen after 10 months of triamcinolone therapy. With hospitalization at bed rest, reduction of the triamcinolone to 6 mg./day and symptomatic therapy, the renal irritation subsided, but some renal insufficiency persisted with blood urea nitrogen remaining between 60 to 70 mg. per 100 ml. The patient chose to continue the triamcinolone in spite of the chronic nephritis, as her psoriasis and arthritis were both almost completely controlled.

In most of the cases where side effects had appeared early they continued in some degree, and in two additional patients hirsutism became obvious by the end of the first year.

All 15 patients were eager to continue therapy, even though the marked antipsoriatic effect continued unabated in only 10.

Status of Patients After 2 Years of Triamcinolone

The patient (case 11) who had chronic nephritis became uremic and died after 19 months of triamcinolone therapy. No autopsy could be obtained, and it remains problematic how much, if at all, the triamcinolone therapy contributed to her death. Attempts to withdraw the steroid slowly invariably had resulted in relapses of arthritis and psoriasis so severe that the patient had begged to resume larger doses. Her maximum daily dose of triamcinolone during her last nine months was only 8 mg., which controlled her signs and symptoms of psoriatic arthritis adequately.

At the end of two years 14 of the original 17 patients remained on triamcinolone therapy. Partial relapse in the psoriasis was noted in spite of the steroid in nearly every instance, but in 9 of the 14 the skin lesions were still definitely less marked and less widespread than before triamcinolone was started. In 3 patients the relapse was practically to the starting status, and in two others no worthwhile antipsoriatic effect had been noted for any extended period. In spite of the almost universal tendency for at least partial relapse in psoriasis, however, 12 of the patients were satisfied that the control of arthritis by triamcinolone was greater than with any other steroid used and wished to continue the therapy indefinitely. The amount of arthritis progression and functional impairment was surprisingly small in this series.

The incidence of side effects seemed unchanged on prolonged triamcinolone therapy. One man (case 10) developed osteoporosis to the extent that he suffered a collapsed vertebra on relatively minor trauma. He continues on small doses of triamcinolone together with large doses of androgenic hormones, wears a spinal brace, and continues his work with few symptoms.

No more peptic ulcers were detected in our patients but weight loss, moon face, hirsutism, flushing, thinning of the skin and some instances of purpura were noted, usually in the frequency and degree noted earlier in the study. Redistribution of fat away from legs and buttocks to upper parts of the body was noted in some degree in more than half of the patients.

Discussion

Evidence is gradually accumulating[5] that the arthritis seen with psoriasis is different from classical rheumatoid arthritis. The distribution of joint involvement, particularly the involvement of terminal joints, has been long

known to be atypical for rheumatoid arthritis. While the pathologic joint changes appear similar, this is no longer regarded as a diagnostic criterion. The usual absence of nodules, differences in types of deformities produced in the joints, and finally the absence of the rheumatoid factor from the serum in these cases makes it appear probable that psoriatic arthritis is an entity similar to, but not identical with, rheumatoid arthritis.

The degree of response of the arthritis in our series of psoriatic patients to triamcinolone has been gratifying. In most of the patients the long-continued control of arthritic symptoms and signs has been more complete with this steroid than any other. No new deformity developed in any patient, and progression of the process to new joints was not seen. Continued partial remission with improved joint function was almost constantly observed.

The early effect of triamcinolone therapy on the psoriasis in a majority of the patients was dramatic, and could not be duplicated or maintained by substitution of any other steroid. Cortisone, hydrocortisone, prednisone, prednisolone, methylprednisolone and dexamethasone were all assayed on some of our patients for antipsoriatic effectiveness, and all failed to clear the skin lesions to any degree, or to prevent relapse when substituted for triamcinolone.

ACTH, in doses up to 40 units per day, had only a mild antipsoriatic effect in two patients who later responded to moderate doses of triamcinolone.

By the end of the first year, however, partial relapse in the psoriasis became obvious in some, and by the end of the second year partial relapse in psoriasis was evident in nearly every patient, despite continued triamcinolone. In three patients the status of the psoriasis reverted to the condition before starting the steroid. From the standpoint of long-continued control of just the psoriasis, therefore, results from triamcinolone therapy have not justified the risk and expense in most patients.

Patient acceptance of this treatment has been excellent, in that most patients experience such relief from arthritic difficulties that they wish to continue indefinitely. Objectively, the results are less convincing, although the patients seem able to continue with minimal arthritic disability because of triamcinolone.

The side effects from this steroid are marked and frequent in incidence. These have been discussed in detail, and, while in several instances they have been serious, necessity for stopping therapy because of side effects has been rare. Nearly all the patients have come to accept them as a necessary, although unwanted, part of the treatment. The one peptic ulcer healed while therapy was continued and has not recurred. Osteoporosis will undoubtedly increase in incidence and degree as therapy is continued, but only one fracture has occurred so far. The one death in this series was in the patient who was known to have a chronic nephritis. Whether or not triamcinolone was at least partially responsible for her death has not been determined, but severe renal disease is probably to be regarded as a relative contraindication to steroid therapy.

Summary and Conclusions

1. Seventeen patients with psoriasis and arthritis were administered triamcinolone beginning in early 1957. Daily doses ranged from 6 to 16 mg.

2. Within the first six weeks a marked improvement in the psoriasis became evident, and nine patients showed virtually complete clearing of psoriatic lesions in the first two months, with six others showing partial clearing of skin lesions.

3. In 15 patients the improvement in the arthritis was more marked than from any other steroid, and continued so in most patients over more than a two year observation period.

4. Relapse of the psoriasis occurred over the two year period to some degree in nearly all patients in spite of continued therapy although in most instances not completely to original status.

5. Side effects were frequent, and several serious side effects were noted, including one peptic ulcer, vertebral fracture from osteoporosis in one and possible increase in the nephritis of another.

6. While triamcinolone produces a temporary amelioration in psoriasis much greater than any other steroid, there is eventual relapse in spite of continuous therapy to a degree that would seem to preclude its value for long-term control of psoriasis alone.

7. The results of the two year observation of the 14 patients still on this therapy indicate the steroid has lasting beneficial effect in controlling at least the arthritic symptoms and signs of psoriatic arthritis.

8. Triamcinolone, a steroid with apparent affinity for cutaneous tissues, shows promise in the treatment of patients in whom the psoriasis, the arthritis, or both, are severe and intractable enough to justify the calculated risk and expense of any prolonged steroid therapy.

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