Treatment of Pustulosis palmaris et plantaris with Colchicine

A Double-blind Cross-over Trial

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27 patients with pustulosis palmaris et plantaris were treated daily with colchicine 0.5 mg × 3 for four weeks in a double-blind study. Only ten patients experienced a halt of pustule formation, whereas redness, scaling, and subjective symptoms were unchanged. Colchicine seems of limited value in patients with pustulosis palmaris et plantaris. *Key word: Pustule.* (Received August 15, 1983.)

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Colchicine has been used for centuries in the treatment of gout. It interferes with microtubular formation in the cytoplasm of granulocytes, inhibiting their motility, adhesiveness, and thus their accumulation in sites of inflammation (1).

Within the last few years colchicine has been used with beneficial effect in several dermatological disorders, where accumulation of granulocytes is a major pathophysiological event. Examples are Behcet's disease (2, 3), dermatitis herpetiformis (4), pustular psoriasis (5), Sweet's syndrome (6), and vasculitis (7). Takigawa et al. (8) found a very good response to colchicine therapy in an open study of patients with pustulosis palmaris et plantaris. In order to elucidate their findings we undertook a double-blind cross-over trial of colchicine in patients with this disease.

PATIENTS AND METHODS

31 consecutive patients with pustulosis palmaris et plantaris were selected for treatment with colchicine. The criteria for inclusion were a definite diagnosis of pustulosis of hand(s) or foot/feet or both, a clinical active disease with formation of pustules at the time of entry, age above 17 years, and no evidence of diabetes mellitus, hypertension, pregnancy, cardiovascular, or hepatic diseases.

All patients fulfilled the criteria. Three were excluded due to irregular attendance and one because she developed severe gastrointestinal symptoms during the first week of therapy (placebo). It leaves 27 patients, 5 men and 22 women. The age range was 19 to 80 years with a median age of 58 years. In two patients the disease had lasted for less than one year, in the rest for a longer period. Six patients had previous or present symptoms of psoriasis.

The design of the study was as follows: The patients received Tablet A for four weeks and Tablet B for another four weeks. The tablets contained either 0.5 mg colchicine, or ammonium glycyrrhizinas 10 mg and chinin chloride 0.5 mg (placebo). These drugs were added to give a slightly bitter taste equal to tablets with colchicine. We did not include a "wash-out" period before or between the treatment schedules, because the disease was active at the start of therapy, and the treatment was given in a double-blind cross-over study, where the patients are their own control.

The dosage of the tablets was 1×3 daily (less than 75 kg body weight) or 1×4 daily (more than 75 kg body weight). This dosage was reduced with one tablet, if intolerable side effects occurred.

Most patients had used topical treatment, which was stopped. An indifferent cream (unguentum cetacei simplex) was used daily. If the disease progressed dramatically the patients were given a weekly bath with 0.003% potassium permanganate and topical steroid daily (0.1% bethametasone valerate with 1% chinoform). This treatment continued until improvement occurred.

A clinical evaluation was performed before, after four, and after eight weeks in which pustule formation, redness and scaling was noted. We used the terms "resolved, improved, unchanged, or worsened".

At the controls patients were asked for side effects. Their blood pressure was measured, and blood was drawn for analysis of hemoglobin, sedimentation rate, leucocyte and thrombocyte counts, plasma glucose (not fasting), serum-creatinine, uric acid, liver enzymes, immunoglobulins G, M, A, and complement fractions C3 and C4.

RESULTS

Fifteen patients received colchicine followed by placebo, and twelve received placebo followed by colchicine. There was no difference between these groups regarding age and severity of disease and the results are evaluated together (Table I).

None of the patients obtained a resolvement of their disease. During colchicine therapy ten patients had an improvement of symptoms, ten had unchanged disease and seven experienced a progression. During placebo therapy three patients improved, four had unchanged disease activity and nineteen experienced a progression of symptoms.

The clinical improvement was a halt of pustule formation. The existing pustules did not grow in size and new pustules were not seen or rarely formed. But the redness, scaling and subjective symptoms were not significantly changed.

During active therapy eight patients received additional topical therapy due to a very pronounced disease activity. The clinical evaluation of these eight patients showed that two improved, three were unchanged and three had further progression of their disease. Two of the last mentioned patients progressed to pustular psoriasis despite colchicine therapy.

Three patients received additional topical therapy during placebo, one improved, one had unchanged disease, and one deteriorated.

Ten patients complained of nausea and increased bowel activity during active treatment. One patient stopped treatment and did not receive placebo tablets and another three had a reduction in their dosage. Three patients had gastrointestinal symptoms during placebo therapy, but not when taking colchicine.

DISCUSSION

Our trial of colchicine in pustulosis palmaris et plantaris and a recent trial in a group of twelve patients (9) cannot confirm the beneficial effect, which was reported by Dr Takigawa et al. (8). Ten of our patients improved during colchicine treatment, but the improvement was only a hindrance of new pustule formation and growth of existing pustules. None of our patients had a clearing of their symptoms.

We used an identical dosage of colchicine as the Japanese investigators (8). 90% of their patients improved within one week of therapy and 14 of 28 patients terminated therapy

Table I. *Clinical evaluation of patients with pustulosis palmo-plantaris during colchicine and placebo therapy*

Clinical status	Colchicine	Placebo
Resolved	0	0
Improved	10	3
Unchanged	10	4
Worsening	7	19
Total	27	26[a]

[a] One patient received colchicine, but not placebo.

within one month. We do not believe that a difference in length of treatment can be the reason for the different observations.

One may argue that our preparation of colchicine was not absorbed very well. However, colchicine is regarded to be easily absorbed (1). Ten of our patients experienced side effects, which occur through a neurogenic stimulation of the gut (1). If so, the drug must be absorbed. Also, our preparation of colchicine is used in the treatment of gout with good results in the recommended dosage.

Pustulosis palmaris et plantaris is a chronic, relapsing disease with a quite unpredictable course. Therefore, it is important to judge new treatment modalities using a double-blind study. Previously tetracycline (10) and methotrexate (11) have been reported to have some effect. Methotrexate seems especially effective in patients with simultaneous symptoms of psoriasis (11).

The most effective systemic therapy at the moment seems to be etretinate (12, 13). Apparently etretinate is best tolerated, if used intermittently (13).

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