Psoriasis Provoked by β-Blocking Agents

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23 patients suffering from psoriasis and being treated with β-blocking agents were compared to a control group regarding psoriasis activity. Seven out of the 23 were affected by psoriasis after introduction of the β-blocking drug. The mean age of onset was significantly higher ($p<0.001$) than that of the control group, which supports the provoking effects of β-blocking agents. Remission occurred in 3 out of 4 patients after medication was stopped. (Received February 23, 1984.)

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Ten years ago Ridley (1) reported psoriasiform dermatoses as a side effect of treatment with the β-blocking agent practolol. Two years later Søndergaard and co-workers (2) reported aggravation of psoriasis due to the same drug. Healing or marked improvement occurred, however, when practolol treatment was stopped. In the recent years other β-blocking agents have been reported to induce psoriasiform dermatoses as a side effect (3). Provocation of psoriasis has not been reported. We therefore call the attention to our findings that 7 out of 23 psoriatics on β-blocking agents got their psoriasis after the drug was introduced.

PATIENTS AND METHODS

23 patients suffering from psoriasis and taking β-blocking agents, were interviewed about acticity of their psoriasis in relation to the medication (group I). As controls served 25 patients with psoriasis not

using β-blocking agents (group II). This group was matched to the characteristics of group I regarding age, sex and intensity and extension of skin lesions.

Statistical analysis was carried out with the Student's *t* test.

RESULTS

In seven patients (4 men and 3 women) of group I (psoriasis and β-blocking agents) the diagnosis of psoriasis was made after introduction of β-blocking drugs (Table I). The average age of onset was 60.3 years (43–80). This was significantly higher than in the other group ($p<0.001$). The period of latency from a β-blocking drug was given until outbreak of psoriasis averaged 1.8 years (½–5 years). The intensity of psoriasis was slight in 1, moderate in 2 while 4 patients had generalized psoriasis.

In 4 out of the 7 patients the medication was stopped. Their cardiac situation was carefully monitored by the internist. Three of these patients experienced remission after 2½–6 months.

21 patients in group I reported periods of aggravation the last 2–3 years. 23 patients in group II (psoriatics not taking β-blocking agents) had periods of aggravation during the same time. In both groups periods of aggravation were ascribed to causes like stress, infections and winter climate, but in some patients aggravation could not be related to a specific cause.

DISCUSSION

Most psoriatics report periods of aggravation without being able to relate that to any specific known provoking factor. Accordingly, it may be difficult to evaluate aggravation of psoriasis by a certain drug. The age of onset in the 7 patients who were affected by psoriasis after starting β-blocking medication is, however, remarkably high compared to previous reports (4). It is significantly higher ($p<0.001$) in the group taking β-blocking drugs compared to the other group. Only in 2.7% of psoriatics the disease starts after the age of 50 (4), compared to 30.4% in group I. From this it may be concluded that it is probable that psoriasis in these patients was provoked by the β-blocking agents. Other additional aggravating factors may explain the long latency (1.8 years) from start of β-blocking medication until outbreak of psoriasis.

The contraindication of β-blocking medication in psoriatics is only relative. The cardiac situation must be most carefully considered. However, after stopping β-blocking medication remission occurred within 2½–6 months in 3 out of 4 cases.

Intracellular cyclic adenosine monophosphate (cAMP) is lowered by β-blocking agents (3). This increases the ratio between cyclic guanosine monophosphate (cGMP) and cAMP which may be responsible for increased epidermal proliferation in psoriasis (5).

Table I. *The different β-blocking agents taken by 23 psoriasis patients*

Registered name	Generic name
Aptin®	Alprenolol
Blocadren®	Timolol
Eraldin®	Practolol
Inderal®	Propranolol
Seloken®	Metoprolol
Tenormin®	Atenolol
Viskén®	Pindolol

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