Lichen planus Associated with Metformin Therapy

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Lichen planus is a relatively common skin disorder of unknown etiology. A wide variety of drugs have been implicated in its cause, although in many cases there is insufficient evidence to differentiate them from the idiopathic disorder [1]. Among the oral hypoglycemic drugs, sulfonylureas have been reported in association with lichen planus [2]. To the best of our knowledge, biguanides have not been reported as a cause of lichen planus. We describe a patient who developed lichen planus 2 weeks after the initiation of oral metformin therapy and who had a positive macrophage inhibition factor (MIF) test to this drug.

A 65-year-old woman was admitted to our department due to a generalized itchy skin eruption present for the last 2 months. The patient had non-insulin-dependent diabetes mellitus and had been treated by oral glibenclamide for the last 5 years. Two weeks before the appearance of the eruption, oral therapy with metformin, 1,700 mg/day, was added. The remaining medical history was unremarkable. The skin examination revealed, on the upper and lower extremities, abdomen, and back, a symmetrically distributed eruption composed of violaceous papules and small plaques with adherent scales and prominent skin markings. The oral mucosa appeared normal. The remaining physical examination was unremarkable.

A skin biopsy from one of the lesions was consistent with lichen planus.

Routine laboratory tests, which included erythrocyte sedimentation rate, complete blood count, liver enzymes, electrolytes, calcium,

phosphor, creatinine, uric acid, proteins, thyroid hormones, and uri-nalysis, were all within the normal ranges. Blood glucose levels were 220-319 mg/dl. Electrocardiogram and chest X-rays were also normal. A MIF test, which was performed as previously described [3] against glibenclamide and metformin, showed a positive result for the latter only. Both of these drugs were withdrawn, and insulin therapy was initiated. A gradual improvement was noted. In order to speed recovery, oral griseofulvin, 500 mg/day, was added. The eruption continued to fade, and complete recovery was achieved within 4 months.

The mere temporal relationship between intake of a drug and the appearance of lichen planus may not be sufficient evidence to link them together. Reinduction of the eruption by rechallenge with the suspected drug might provide this evidence; however, this may not be acceptable

clinically or ethically. The MIF test has been found to be of value in supporting a causal relationship between a drug and a cutaneous eruption [3]. In our case the MIF test supported the clinical evidence, because it was positive for the recently administered metformin and negative for the long-taken glibenclamide. Furthermore, discontinuation of metformin as well as of glibenclamide, and the addition of griseofulvin, which has been found to be effective in some cases of lichen planus [4], resulted in disappearance of the skin rash.

We believe, therefore, that a causal relationship between metformin and lichen planus was highly likely in our case.

References

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