AUTOIMMUNE BULLOUS DISEASES

DECREASE OF ANTI-DESMOGLEIN-3, BUT NOT -1, ANTIBODY AFTER CESSATION OF SITAGLIPTIN IN A PATIENT WITH PEMPHIGUS VULGARIS

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Background: Although dipeptidyl peptidase-4 inhibitors (DPP4i) have been reported to induce bullous pemphigoid (BP), pemphigus vulgaris induced by a DPP4i has rarely been reported.

Observation: A Japanese male in his 60s who had been treated with the DPP4i sitagliptin for 14 months visited our hospital presenting with bullae, erosions, and erythema. Based on our clinical diagnosis of DPP4i-associated BP, the sitagliptin was discontinued and a topical steroid was initiated. Surprisingly, blood testing was negative for anti-BP180NC16a antibody but positive for anti-desmoglein (Dsg)-1 antibody (145 U/ml) and anti-Dsg-3 antibody (71.8 U/ml). Histological examination and direct immunofluorescence confirmed pemphigus vulgaris. At 9 weeks after the sitagliptin discontinuation, the titer of anti-Dsg-3 antibody had decreased to 13.5 U/ml (threshold for positivity; >3.0 U/ml); that of anti-Dsg-1 antibody was unchanged. Although the mucosal eruptions improved, oral prednisolone (30mg/day) was started at day 70 because erosions remained on the head and trunk. Skin lesions immediately improved and the anti-Dsg-1 antibody titer turned negative within 3 weeks. By 14 weeks after the sitagliptin withdrawal, the eruptions completely disappeared.

Key message: To our knowledge, this is the first case demonstrating that only the titer of anti-Dsg-3 antibody decreased, not that of anti-Dsg-1 antibody, by simply withdrawing a DPP4i. Further examination may clarify whether the immediate decrease of the titer of Dsg-3 but not -1 after DPP4i discontinuation in our patient was based on the DPP4i's uncertain effect on the immune system or a genetic background such as the association of HLA-DQB1*03:01 with noninflammatory DPP4i-related BP.