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Vildagliptin Induced Bullous Pemphigoid in a Diabetic Patient

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Abstract
Bullous pemphigoid is a polymorphic immunobullous disorder that occurs more commonly in the elderly and can be drug induced [1,2] rarely, lesions are induced by ultraviolet light or radiation therapy.

Introduction

Bullous pemphigoid can be localised[3] generalised. Itchy, tense hemorrhagic blisters occur over normal or erythematous skin or urticarial skin.

It commonly involves lower abdomen, inner thighs, groins, flexures and intertriginous areas. Sometimes generalised involvement.

There are number of studies and case reports on BP induced by DPP-IV inhibitors [4,5] Enzyme DPP-IV degrades glucagon like peptide-1(GLP-1), which stimulates insulin secretion. DPP-IV is expressed on various tissues including skin.

Case Report

A 75 year old male presented with blisters over face, both arms and over abdomen since 5 days associated with itching and redness.
No h/o similar illness in the past

Patient is a known diabetics since 10 years taking metformin 500mg BD,glimepiride 1mg BD and vildagliptin 50mg BD (vildagliptin was started 3 months ago) and hypertensive on Telmisartan 40 OD , Metoprolol 25mg OD.

Vitals - stable

On Local Examination of blisters - Tense bullae over erythematous base over face arms and abdomen. Few blisters in healing stage.
Bulla spread sign and Nikolsky sign negative



Figure 1, 2, 3: Ruptured blister and healing blisters over skin

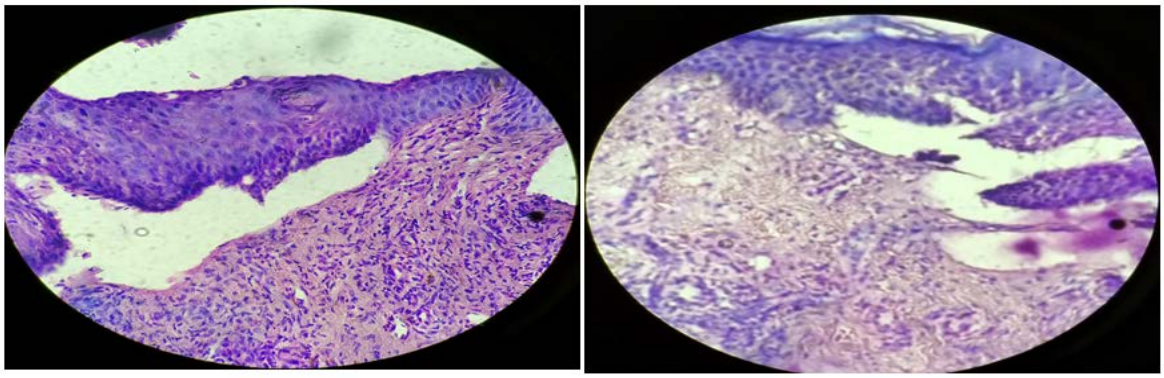

Figure 4: Skin Biopsy **Figure 4: Skin Biopsy**

Skin biopsy was done which shows subepidermal bullae formation.Eosinophilic infiltrate admixed with polymorphs and lymphocytes.
Immunofluorescence shows IgG(2+) and C3c(trace) at basement membrane
Both skin biopsy and immunofluorescense features are consistent with bullous pemphigoid.
Patient was prescribed oral doxycycline and topical steroids, patient responded well initially and lesions started to disappear. After few days lesion started to reappear after stopping oral doxycycline and topical steroid.
Vildagliptin was stopped, lesions started healing and new blister formation was also stopped.They finally regressed when the gliptin was discontinued.

Discussion

1. DPP-IV inhibitors are being used widely as second line in diabetes treatment because of lower adverse effects as compared to sulfonylureas.
2. There is increasing number of studies and case reports suggesting DPP-IV inhibitor induced bullous pemphigoid.
3. Elderly male individuals are at risk.
4. Several hypothesis have been proposed to explain the pathogenesis, but exact mechanism is unclear.
5. DPP4 is a cell-surface glycoprotein with enzymatic activity that is expressed throughout the body including the skin.Various cell types, including keratinocytes and T cells, express DPP4, and its inhibition can increase the activity of numerous proinflammatory cytokines, leading to cutaneous eosinophil activation and blister formation.
6. In this case blisters are due to drug induced immune reaction. As the lesions started to disappear after stopping vildagliptin,vildagliptin is the causative drug in this case, similar association was reported in many other case studies and reports earlier.

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