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Case Study *Medical research*

A Case Report On Drug-Induced Bullous Pemphigoid

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ABSTRACT

This is a case presentation of a 69-year-old male patient presented with pruritic bullous lesions for one month onset located all over the body including genitals. This can be drug-induced as Hydrochlorothiazide, a diuretic can cause bullous pemphigoid, the patient was taking the drug for the past 7 years for his hypertensive condition. The lesions and blisters were cured by providing oral corticosteroids and withdrawal of the suspected drug. Bullous pemphigoid is a dermatological autoimmune condition that can be diagnosed by physical examination, histopathology, and serological assays. Mild conditions are treated using Intravenous antibiotics, and topical corticosteroids, and moderate to severe conditions are treated by systemic corticosteroids and immunosuppressants.

Keywords: Bullous, lesions, corticosteroids, autoimmune, immunosuppressants.

INTRODUCTION

Bullous pemphigoid (BP) is an autoimmune dermatological subepidermal blistering disease that mainly affects the elderly population[1]. It is mainly caused by autoantibodies that are circulating or tissue bounded directed against bullous pemphigoid antigen 1 or bullous pemphigoid antigen 2 or both, the condition is more common in women[2]. Bullous pemphigoid manifests with tense blisters or bullae over the trunk and extremities accompanied by intense pruritus. Mucosal involvement is rarely reported[3]. Bullous pemphigoid occurs due to drugs and other causes, there are no specific test to differentiate the Bullous pemphigoid (BP) and Drug induced bullous pemphigoid (DIBP) DIBP are caused by variety of medicines includes, antihypertensives, nonsteroidal anti-inflammatory drugs, diuretics, antiarrhythmics, antidiabetics, antirheumatics, antibiotics, tumour necrosis factor inhibitors, vaccines, and other agents[4]. The main treatment for this BP are oral and topical steroids, other treatments include immunosuppressants such as azathioprine, mycophenolate mofetil, dapsone, methotrexate, cyclosporin, cyclophosphamide, etc, plasma exchange, antibiotics like erythromycin, and tetracycline and nicotinamide. Some of these drugs or interventions have the potential for severe adverse effects such as increased susceptibility to serious infections, liver and kidney damage, and bone marrow suppression; and many are very expensive.

CASE PRESENTATION

A 69-year-old male patient was presented with complaints of pruritic multiple vesicles and bullae with erosions all over the body more in the upper and lower limb and genitals are also affected with itching and pain as shown in the figures (Fig:1-5). He was anemic and infected and hence admitted to the Department of General Medicine. He was on Telmikind H (Telmisartan 40mg, hydrochlorothiazide 12.5mg), for hypertension, Donep M (donepezil – memantine) 5mg and

Nexito (Escitalopram) 10mg for dementia, and Moxiflo inhaler (Formoterol (6mcg) + Fluticasone propionate (250mcg)) for COPD.

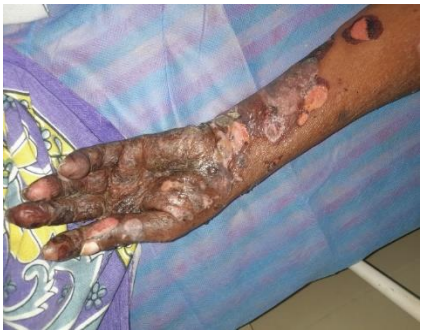
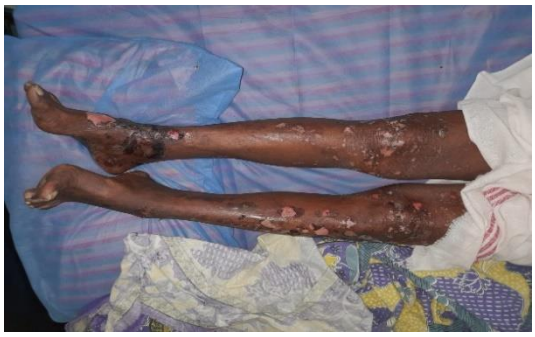
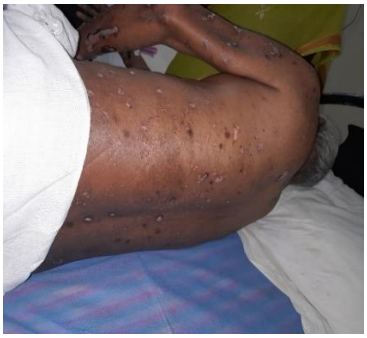
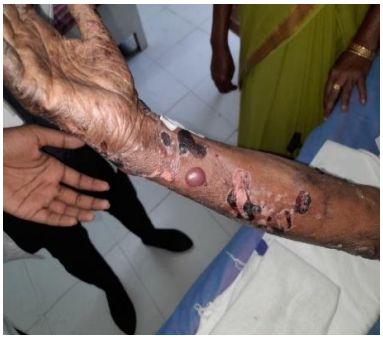
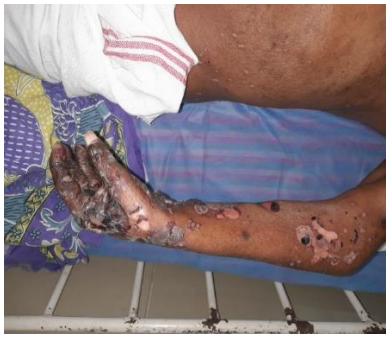
During the time of admission Haemoglobin (9.1g/dL), Lymphocytes (14%), and Sodium (131mmol/L) were declined and Eosinophils (10.8%) CRP (6%) were elevated. Renal function, Liver function, Thyroid function, and Lipid profile were found to be normal. Under dermatology consultation, new lesions were found.

On physical examination, pruritic blisters were seen all over the body. A large blister was seen on the right elbow and some of the blisters were ruptured (Fig 1-5). The swab culture showed few pus cells, gram-positive cocci, and skin Commensals (CoNs) growth. The sample was sent for biopsy, the entire tissue was processed and there were sub-epidermal blisters filled with eosinophils and few neutrophils. Moderate superficial Perivascular mixed inflammatory cell infiltration was seen comprising neutrophils, few eosinophils, and lymphocytes. Mild eosinophil exocytosis and spongiosis were seen, diagnosis compatible with Bullous Pemphigoid. Based on the above evidence physician diagnosed the particular case as Bullous Pemphigoid.

Inj. Pactiv (Paracetamol) 1g, IV was given for pain management. He was treated with the following medicines, Inj. Betnesol (Betamethasone) IV is a steroid given to treat inflammatory conditions due to bullous, Inj. Cebactum (Cefoperazone - Sulbactam) 1.5gm and topical antibiotic T Bact ointment (Mupirocin) for infection, Tab. Gabantin (Gabapentin) 100mg and Tab. Ultracet (Acetaminophen and Tramadol) for pain management, Tab. Telmikind H (Telmisartan and hydrochlorothiazide) for maintaining blood pressure and stopped on the 7th day and replaced by Tab. Cilacar (Cilnidipine), 10mg Tab. Donep M (Donepezil, memantine) 5mg and Tab. Nexito (Escitalopram) 10mg for dementia, Gastric irritation was treated with Inj. Pantop (Pantoprazole) 40mg IV, allergic symptoms were prevented by Antihistamines Tab. Dazit (Desloratidine) 5mg, T. Shelcal (Calcium) 500mg were given to prevent hypovitaminosis D. Nebulization Duolin and Budecort were also given to treat breathing difficulty.

He was admitted for 11 days. On the last day his vitals were stable and wounds were healing and no new blisters were found hence he was discharged with the following drugs:

Tab. Nexito (Escitalopram) 5mg ½ HS, Tab. Levogen (multivitamin) 0-1-0, Tab. Gabantin (Gabapentin) 100mg 1-0-1, Tab. Cilacar (Cilnidipine) 10mg 1-0-0, Tab. Donep. M (Donepezil+Memantin) 5mg ½ -0- ½, Tab. Dazit (Desloratidine) 5mg 1-0-0, Tab. Omnacortil (Prednisolone) 30mg-10mg-0, Tab. Pantop (Pantoprazole) 40mg 1-0-1, Tab. Shelcal (Calcium) 500mg 0-1-0, Tab. Cefixime 200mg 1-0-1, Moxiflo Inhaler 250mcg 1 puff BD, Mupirocin cream

DISCUSSION

Bullous Pemphigoid is characterized by the development of tense and pruritic blisters of the skin, most commonly on an erythematous base. Risk factors for Bullous pemphigoid include old age, neurological diseases (Dementia, Parkinson's disease, Cerebrovascular disease), and some particular drugs including loop diuretics, spironolactone and neuroleptics [4,5]. Here the patient was admitted with the pruritic blisters all over the body for one month. Drug-induced bullous pemphigoid is a term used to describe instances of bullous pemphigoid demonstrating clinical, histological, or immunopathological features similar to the idiopathic form of bullous pemphigoid and it is associated with the systemic or topical use of particular sulpha-containing drugs [6]. Medication history of antihypertensives specially diuretics is a triggering factor for Bullous Pemphigoid.

In terms of symptoms the patient was initially presented with pruritic bullae over upper limb, lower limb and thigh later it spread all over the body. The duration was varying with

respect to severity, prodromal eruptions last for 6 weeks and for papular and/or urticarial and up to 2 years for eczematous, before the blisters appeared [7]. It has usually a chronic course with spontaneous exacerbations

The elder patients are more frequently affected by this and increased morbidity and mortality rate are noted by recent studies, pruritus, urticaria, and tense blisters are the main three clinical presentations of Bullous pemphigoid [8]. Our patient was admitted with pruritic vesicles and bullae all over the body including genitals, he has dehydration due to decreased intake of food.

Diagnosis of BP is commonly based on clinical presentation, histopathologic features, serological assays such as Direct immunofluorescence and by indirect immunofluorescence and/or the identification of the involved autoantigens.[1-4] Previous studies have described patients with pruritus and immunopathologic findings of BP but no blister development[5-9]. Both Direct Immunofluorescence and Indirect Immunofluorescence play a key role in the diagnosis of autoimmune blistering disorders. With regard to diagnosis, he was anaemic and severely dehydrated and eosinophilia were noted. The culture of the wound swab showed gram positive cocci and skin commensals (CoNs) growth. The patient condition was normalised after stopping the Antihypertensive drug (Telmisartan-Hydrochlorothiazide).

Several studies showed symptoms in elder patients - pruritus alone or nonbullous skin lesions are frequently misdiagnosed as xerosis, a drug reaction, dermatitis, renal impairment, liver impairment, or scabies in elderly patients [9,10]. The antibody detection was done by serological assays. In pemphigoid patients, IgG directed against epidermal basement membrane was found in serum by indirect immunofluorescence, and in skin by direct immunofluorescence [10].

Biopsy evaluation is another diagnostic criterion for Bullous Pemphigoid, it is taken from the wound skin or mucosa of patients, and it is important to emphasize the variation of histology from the morphology of lesions [10]

CONCLUSION

Currently, many drugs have been used to treat blood pressure and starting to understand the pathophysiology of the drug-reaction, even though the precise causative link in many situations needs to be clarified. Clinicians can spot potential cases of Drug Associated Bullous Pemphigoid earlier and stop the offending medication by having a better understanding of the drugs linked to Bullous Pemphigoid. Due to ethical and safety issues, challenging patients to validate the BP's possible association with the offending medicine is still not practicable. However, doctors should treat DABP with a high level of suspicion. Ongoing research into the underlying mechanisms, genetic susceptibility, and natural history of DABP is expected to gain a better knowledge of those who are predisposed to the disorder as well as the treatments that may put them at risk.

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INFORMED CONSENT

Before taking this case the patient and their families were informed and informed consent was acquired.

CONFLICTS OF INTEREST

Nil

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