



IJPPR

INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH
An official Publication of Human Journals

ISSN 2349-7203



Human Journals

Case Report

December 2017 Vol.:11, Issue:1

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Case Study on the Bullous Drug Reaction



IJPPR
INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH
An official Publication of Human Journals



ISSN 2349-7203

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Submission: 25 November 2017
Accepted: 3 December 2017
Published: 30 December 2017

Keywords: Case Study, Bullous Drug Reaction, painful fluid-filled lesions, patient

ABSTRACT

The term bullous drug eruption refers to adverse drug reactions that result in fluid-filled blisters or bullae. Blistering can be due to various medications, prescribed or over the counter, natural or synthetic. Blistering may be localized and mild, or widespread and severe, even life-threatening. Blisters may be the major feature of the reaction or maybe only seen sometimes or in localized areas of a more extensive rash. Patient has come with chief complaints of painful fluid-filled lesions on both the foot since 1 week. Initially, the lesion was started as small solid raised lesion on right foot since 10 days back. This case study illustrates clinically important and rare drug eruption commonly presented and it was gradually decreased the reaction by using medications prescribed.



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INTRODUCTION:

The term bullous drug eruption refers to adverse drug reactions that result in fluid-filled blisters or bullae. Blistering can be due to various medications, prescribed or over the counter, natural or synthetic. Blistering may be localized and mild, or widespread and severe, even life-threatening. Blisters may be the major feature of the reaction or maybe only seen sometimes or in localized areas of a more extensive rash. The reaction may show features of more than one condition (overlap) about all medications, even those purchased without a prescription and including 'natural' or herbal remedies, as ceasing the causative agent is the single most important part of the treatment to limit damage. Bullous or blistering drug eruptions and drug induced anaphylaxis and hypersensitivity syndromes are among the most serious types of adverse drug reactions. Based on the various mechanisms, bullous drug reactions may be classified into the following categories; spongiotic or eczematous, acute general eczematous pustulosis, fixed drug eruption, erythema multiforme, stevens-johnson syndrome, or toxic epidermal necrolysis, drug-induced pemphigus, drug-induced pemphigoid, drug-induced linear immunoglobulin A (IgA)dermatosis, Pseudo-porphyrria cutaneatarda. Examples of these mechanisms include the following: exocytosis/spongiosis, formation of subcorneal spongiform pustules, cytolysis and keratinocytic necrosis, anti-epidermal antibody formation, deposition of the immunoglobulin at the basement membrane zone, and photoinduced collagen alterations that lead to a mechanobullous disorder. Most bullous drug reactions are the result of an immunologically mediated immune response, although pseudoporphyria cutanea tarda (Pseudo PCT) is not associated with significant inflammation.^[1]



(a) Bullous drug reaction

Case study:

Patient has come with chief complaints of painful fluid-filled lesions on both the foot since 1 week. Initially, the lesion was started as small solid raised lesion on right foot since 10 days back. Later the lesions were extended up to the lower third of both the legs within 24 hours. Swelling appeared on both the lower limb along with bullous lesions within 24 hours. His history of present illness with fever and sore throat since 10 days before a cough (productive) onset of lesions. Patient had taken treatment from RMP doctor for 5 days after which patient found no relief after 3 days. He had taken painkiller for two days. Applied lime water on bullae yesterday night. No history of HTN and DM was found, history of tobacco chewing for 20 days, taken mixed diet edema feet was present on both legs. His vitals was found to be increased, blood pressure with pre-hypertensive, temperature is increased. Multiple grouped bullae of size ranging from 1*1 to 2*2 cms present symmetrical on dorsum of both the foot extending above the proximal ankle and foot vesicles cohesing to form bullae present, multiple discrete erythematous plaques with antral pallor present on an exterior aspect of left leg multiple discrete, skin, color and papules present. Exterior aspect of both upper limbs. Edema of both lower limbs presents above the ankle foot. Platonychia of fingernails. On examination, multiple, grouped, bullae present on dorsum left foot filled with pus. On both feet present feet present oozings from ruptured bullae. The patient was on treatment with Tablet Omnocort 10mg, Tablet Taxim, Tablet lyser D, Tablet Fourts B OD, Tablet Rantac, T.Levosiz 10 mg HS, Inj.Metrogyl 100ml IV, Inj.Taxim IV 1g, T.Bronchoflow, T Metformin 500mg OD. Laboratory required that increased fasting blood sugar, postprandial blood sugar, decreased hemoglobin, increased eosinophils, decreased monophils, increased ESR. Complete color is yellow, cloudy, acidic, specific gravity is 1.030, albumin is increased Liver function tests with increased serum creatinine.

DISCUSSION:

Overall incidence of adverse cutaneous reactions to drugs has been estimated at 12.2% of treatment courses; Patients infected with HIV may be at greater risk for adverse cutaneous drug reactions. Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) have an incidence ranging from 1.8-9 cases per million and are more frequent in those younger than 20 years and older than 65 years. The United Kingdom, France, Germany, and Italy have reported similar incidences of drug reactions and TEN as the United States. However, one survey in the United Kingdom found that only 2-10% of serious reactions are

reported. Bullous drug reactions have no racial predilections. In general, adverse drug reactions occur more commonly in women, although erythema multiforme (EM) has been reported to occur more frequently in men. Elderly patients who take multiple medications are at higher risk for the development of adverse drug reactions. Young men seem to be at higher risk for EM. Fixed drug eruption (FDE) is the most common cutaneous drug reaction seen in India. Predisposing genetic background probably reflects this adverse drug reaction. It is characterized by pruritic, well-circumscribed, erythematous patches at the same site with re-exposure to an offending drug. Subsequent exposure may increase the number of sites. Usually, the lesion will be well-defined round or oval plaque of erythema and edema that may be surmounted by a bulla in the early stages. Later the lesion subsides upon discontinuation of the drug leaving behind hyperpigmentation. Localized tissue damage is due to intra-epidermal clusters of differentiated CD8-positive T cells at the affected site. When the resting T cells are activated, surrounding keratinocytes are killed and release cytokines such as interferon gamma. More T cells and neutrophils are recruited to the FDE site causing tissue damage. The commonly used drugs causing FDE are antibiotics such as trimethoprim-sulfamethoxazole, penicillin, tetracycline and erythromycin followed by NSAIDs like diclofenac sodium, aspirin, ibuprofen and naproxen and also some of the anti-epileptics.^[2]

CONCLUSION:

This case study illustrates clinically important and rare drug eruption commonly presented and it was gradually decreased the reaction by using medications prescribed.

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