

A case report on doxycycline induced urticaria

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Abstract

Urticaria is a vascular reaction pattern characterized by transient erythematous, pruritic swelling (hives) in the superficial portions of dermis. Urticaria is reported to be the second most common skin reaction. In this case we present a 34 years female came with the chief complaint of allergic reaction like itching on face, bilateral itching on knees, palm and foot. After appropriate evaluation of clinical findings, that includes mainly their detailed history, skin examination for lesions and sometimes skin prick test can be done. she has been diagnosed with Doxycycline induced urticaria. she has been treated with Oral antihistamine, soothing and moisturizing lotion for which she has been responded well. In conclusion the symptoms subsided, early diagnosis and treatment is helpful in preventing the exacerbation of the disease.

Keywords: Doxycycline, urticaria, disease

Introduction

Drug induced Urticaria is also known as Urticaria medicamentosa. [1] Doxycycline belongs to the tetracycline class of antibiotics with the elimination half life of about 18-22 hours [2]. Doxycycline works mainly by inhibiting bacterial protein synthesis and it is a antibacterial drug approved by the U.S. Food and Drug Administration (FDA) for the treatment of certain infections like respiratory tract infections, ophthalmic infections, sexually transmitted infections and also used as an adjunctive and prophylactic therapy for various infections [3]. Urticaria is reported to be the second most common skin reaction [4]. Urticaria is a dermatological disorder and is characterized by the development of wheals (hives), angioedema or both. Where as wheal is a specific condition of urticaria that will have a central swelling of variable size and surrounded by a reflex erythema and is usually associated with itching, and the other is angioedema which is characterized by a sudden erythematous or swelling of the lower dermis or mucous membrane, which is associated with pain rather than a itching. Urticaria is broadly classified into two types namely acute and chronic urticaria, based on the duration of symptoms. [5]

Case study

A 34-year-old female came to the hospital with the chief complaint of allergic reaction, itching on face, bilaterally on knees, palms and feet, swelling of lips, cough and rashes over face, palm and knees for the past 3 days as well as she had a history of having a similar episode 2 days back and had taken inj. Hydrocortisone 100mg and inj. avil 2g but the symptoms has not been subsided and as well as itching persisted. she had a history of using pantoprazole, metronidazole, doxycycline and drotin for 2 days. The suspected drug for causing the reaction was Doxycycline. and she had no history of having similar skin complexes and as well as she had conveyed that allergic reaction have been noticed only after the intake of doxycycline.

Lab values

Parameters	Result	Reference range
Immunoglobulin E, Ig E – serum	140 IU/ml	< 100 IU/ml
C - Reactive protein (CRP)- serum	10 mg/l	0-5.0 mg/l
Haemoglobin	10.8 g/dl	11.5 - 13.5 g/dl
Packed cell volume	33%	36 - 46 %
Mean cell haemoglobin	26 pg	27 - 31 pg
Neutrophils	84.7%	40 - 80 %
Lymphocytes	13.9%	20 - 40%
Monocytes	1.1%	2 - 10%
Eosinophils	0.2%	1 - 6 %
Erythrocyte sedimentation rate(ESR), Whole blood EDTA	80 mm	0 - 10 mm

She was diagnosed to have doxycycline induced acute urticaria. The management part for the acute urticaria is first to stop the use of Doxycycline and further management includes Oral antihistamine (fexofenadine 180 mg in morning and night) were started. A short course of oral histamine and leukotrine antagonist (bilastine and montelukast 20 mg and 10 mg only at night) for 6 days. Also, calo soft lotion was applied twice or thrice a daily to only in the itching area and venusia soft plus lotion, a moisturizing lotion was applied thrice daily to only in the area of rashes.

Follow up after one week of treatment showed significant improvement of the allergic reaction and skin rashes. after two weeks of therapy, all of her symptoms had been resolved.

Discussion

The drug related skin reaction is underrated because some of the information in the disease is mild and self-limiting and doctors usually do not act quickly to confirm the Identification of skin reactions unless the progression of the disease persists or is severe [6]. Urticaria is a chronic condition that affects 15-25% of people at some point in their lives. It is characterized by recurrent, intense itching

with pale, central swelling surrounds epidermal erythema that can occur anywhere on the body. Lesions vary from a few millimeters to a few centimeters in diameter and are usually temporary, healing without scarring in about 24 hours; However, some pain may last up to 48hours [7]. The most common cause of urticaria is antibiotics, and the most common cause is cephalosporins. The average time to onset of urticaria is shorter with oral nonsteroidal anti-inflammatory drugs [8]. The main treatment for all types of urticaria in adults and children is oral second-generation H1-antihistamines such as cetirizine or loratadine. For severe urticaria, some oral prednisone (prednisolone) may be necessary one [9]. There are only few reports on the doxycycline induced urticaria and the exact mechanism by which it causes is unknown [10]. In this case she has been prescribed with inj. Hydrocortisone 100mg and inj. avil 2g but the symptoms has not been subsided and as well as itching persisted then she was switched to oral histamine and leukotriene antagonist (fexofenadine 180 mg) and the individual showed significant improvement from their allergic reaction and skin rashes [5, 9]. According to the literature search, patient medication history doxycycline is suspected to be the causal agent for the adverse drug reaction.

Conclusion

In this report, we have discussed a case of doxycycline induced urticaria manifested with the symptoms of allergic reaction, itching on face, knees, palms and feet, swelling of lips, cough and rashes over face, palm and knees. In the treatment first they have been prescribed with class of corticosteroids and nsaid but the symptoms have been persisted and then she has been switched to oral histamine and leukotriene antagonist. This case report provides alarming sign to all the health care professionals and as well as doxycycline is a prominently used antibiotics to all kind of bacterial infections a precaution should to taken to avoid these kind of allergic reactions in an individual to provide better health care.

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