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COTRIMOXAZOLE INDUCED RASH: A CASE REPORT

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Abstract: *co-trimoxazole is a combination of two antibiotics used to prevent or treat pneumocystis carinii pneumonia(pcp). It is also used to prevent other infections such as too plasmoids(severe brain infection). Like many other drugs co-trimoxazole can induce a large number of different skin reactions, mainly of allergic pathogenesis. The majority of these reactions, such as Urticarial, purpuric, maculo-papular, and pustular exanthemas as well as photallergic reactions, generally do not endanger the life of the patient.*

Key Words: *co-trimoxazole, antibiotic, infections, skin reactions, allergic, Urticarial, Maculopapular.*

1. INTRODUCTION:

Co-trimoxazole, a fixed dose combination of sulfamethoxazole and trimethoprim, is abroad spectrum Antimicrobial agent that targets a range of aerobic gram-positive and gram-negative organisms, fungi and protozoa(1). It is the most frequently prescribed antibiotic for urinary tract infections in Canada(2). other indications include treatment of infections caused by Pneumocystis jiroveci, Toxoplasma gondii, stentrophomonas maltophilia and community-associated methicillin-resistant staphylococcus aureus. In addition, among patients with depressed CD4 counts from infection with HIV, the use of low-dose Trimethoprim-sulfamethoxazole for prophylaxis against P.jiroveci and T. gondii is associated with decreased mortality caused by opportunistic infections(3). Trimethoprim-sulfamethoxazole (co-trimoxazole) is used extensively for treatment of pulmonary and urinary tract infections. Side effects may affect skin, blood, bone marrow, kidney and the liver. These reactions are accompanied by symptoms indicative for allergic reactions such as fever,rash and eosinophilia(4). The majority of these reactions, such as Urticarial, purpuric, maculo-papular, and pustular as well as photallergic reactions, generally do not endanger the life of the patient(5). Although this drug is well tolerated by many patients, it is associated with several potentially serious adverse reactions.Many of these adverse effects are rare, however others are predictable and several can be life-threatening.The mechanism of toxicity is not well defined, but an immunological process is suggested(6).

2. CASE:

A 59 years old male patient came with chief complaints of rash over neck, abdomen, lower limb since 10 days for which patient was prescribed with cotrimaxazole dusting powder for fungal infection. Then he developed rash over abdomen, neck,and back. History of rash and burning sensation. On examination patient was conscious and coherent with stable vitals. On Cutaneous examination eczematous, erythematous plaque was present over the neck and abdomen. Laboratory findings show Random blood sugar-116mg/dl, Blood urea nitrogen was 2.8mg%, Serum creatinine was 0.8, SGPT- 26IU/L, Alkaline phosphates-67IU/L, Na-136mEq/L, K-3.8-mEq/L, Cl-110mEq/L. Based on the Subjective and Objective data it is confirmed as Cotrimaxazole induced rash. Initially He was prescribed with T.Wysolone 30mg OD, Tab.Pantop 40mg OD, Tab.B.Complex and Iron folic acid OD, Inj. Taxim 1gm IV BD. Then He was discharged with Dermocalm lotion and soframycin cream for external application for betterment of the condition.

Fig:1

Fig:1.1

3. DISCUSSION:

Drug allergy to antibiotics may occur in the form of immediate or non-immediate(delayed) Hypersensitivity reactions. Immediate reactions are usually IgE-mediated whereas non-Immediate hypersensitivity reactions are usually non-IgE or T-cell mediated. The clinical Manifestations of antibiotic allergy may be cutaneous, organ-specific (eg, blood dyscracias, Hepatitis, interstitial nephritis), systemic(eg, anaphylaxis, drug induced hypersensitivity Syndrome) or various combinations of these. Severe cutaneous adverse reactions manifesting as Stevens Johnson syndrome or toxic epidermal necrolysis(TEN) mat be potentially life-threatening(7). The management of antibiotic allergy begins with the identification of the putative antibiotic from a detailed and accurate drug history(8). Patch tests have been described in the diagnosis of non-immediate reactions to amoxicillin, cefcapene Pivoxil, clindamycin, ciprofloxacin, clarithromycin, cotrimaxazole, doxycycline, erythromycin, fluoroquinolones, isoniazid, metronidazole, minocycline, pristinamycin, rifampicin, spiramycin, teicoplanin and vancomycin. Patch tests are generally useful in maculopapular exanthema (MPE), eczema, acute generalized exanthematous pustulosis (AGEP), fixed drug eruptions (FDE) (when done on the lesional skin), symmetric drug-related intertriginous and flexural exanthema (SDRIFE, Baboon's syndrome); but have not been shown to be very useful in SJS/TEN and vasculitis(9). Rapid and desensitization to cotrimaxazole especially in the setting of HIV infection, has been shown to be effective and safe(10). Cotrimaxazole is an immunogenic drug which may cause both immediate and non-immediate reactions. Non- immediate reactions range from mild MPE and FDE to serious SJS and TEN and are more common than immediate reactions.(11)(12). This is especially prevalent in HIV-Infected individuals where Cotrimaxazole is used for the treatment and prophylaxis for pneumocystis jiroveci infections and toxoplasmosis. The commonest side effects heard included skin rash, itching of the body and burning sensation in the stomach. Many of respondents, who had not experienced side effects of cotrimaxazole thus far, expressed their fear of risks of adverse events of cotrimaxazole in future they believed as a consequence of its long term use(13). Similarly, most had ever heard of side effects of cotrimaxazole and we're aware that treatment had to be discontinued if side effects events were experienced(14).

4. CONCLUSION:

Antibiotics may cause various types of allergic drug reactions ranging from mild to serious cutaneous reactions, organ specific or systemic reactions. A high index of Clinical suspicion and immediate withdrawal of the suspected drug are the most important steps in management of antibiotic allergy. Systemic immunomodulatory drugs may be required to suppress severe cutaneous or systemic reactions.

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