

Case Report

Paracetamol induced bullous fixed drug eruptions

Kalyani Pai Kakode^{1*}, Varun Pai Kakode²

¹Medical Officer, Primary Health Centre, Marcaim, Goa, India

²Department of Neurology, Goa Medical College, Bambolim, Goa, India

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*Correspondence:

Dr. Kalyani Pai Kakode,

E-mail: kalyani.g.pai@gmail.com

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ABSTRACT

Paracetamol is a commonly used antipyretic and analgesic with a weak anti-inflammatory action with a good safety profile in children and adults. This has resulted in its over prescription and large over the counter sale. Thus, adverse drug reactions due to paracetamol may be easily overlooked resulting in delay in diagnosis. Author present a case report of a 12 year old boy with bullous fixed drug eruptions due to paracetamol while he tolerated NSAIDS well. This highlights the need of adverse drug reaction monitoring and reporting, for early detection and prompt treatment of drug related morbidity and the cautious use of even the most commonly used drugs.

Keywords: Bullous fixed drug eruptions, Idiosyncratic reactions, Paracetamol allergy, Paracetamol

INTRODUCTION

Paracetamol or Acetaminophen is a widely used antipyretic and analgesic agent with weak anti-inflammatory action. It is also available over the counter making it a common household analgesic. Many fixed dose combinations containing paracetamol are also available in the market as headache, toothache remedies, decongestants or cold and flu preparations.¹ Paracetamol is commonly prescribed in children and is known to cause very few adverse effects (Although idiosyncratic reactions to paracetamol have occurred very rarely). Here author report a similar adverse drug reaction to paracetamol, i.e., bullous fixed drug eruptions in a male child who otherwise tolerated NSAIDS well.

CASE REPORT

A twelve year old obese male with BMI 30.42 kg/m² presented to emergency department with multiple blisters on trunk both anteriorly and posteriorly. Patient gave history of headache five days back for which he was prescribed tablet paracetamol 650 mg BD. Three to four

hours after taking the tablet, patient experienced itching on the trunk. Later there were hyperpigmented lesions on the trunk which after four days turned into multiple fluid filled bullae associated with pain.

There was history of similar lesion six months back when there was only a single small bulla which healed on its own leaving behind a hyperpigmented patch on the anterior abdominal wall. This was after taking one tablet of paracetamol 650 mg for fever. Patient did not have similar episodes with tablet paracetamol 500 mg, although, he recalled he had itching of the trunk which subsided on its own. One of the present bulla appeared at the same site as before. As per history given by his parents, the patient tolerated tablet ibuprofen, diclofenac and mephenamic acid, which were occasionally prescribed by the doctors.

On examination, vitals were stable with no significant systemic findings. Cutaneous examination revealed multiple fluid filled flaccid bullae on anterior abdominal wall and back ranging from 2x2x1 cms to 4x3x1 cms. The bullae were surrounded by a rim of

hyperpigmentation. Many hyperpigmented patches were also seen close to the bullae (Figure 1,2). There were no lesions on the extremities, genitalia, face and oral cavity.



Figure 1: Bullous fixed drug eruptions due to Paracetamol.



Figure 2: Bullous fixed drug eruptions due to Paracetamol on the back.

Complete hemogram and biochemical investigations were normal, clear fluid was aspirated from the bullae and sent for culture sensitivity testing which was sterile. Skin biopsy was done at the site of bulla which reported, skin biopsy specimen comprising of epidermis and dermis with necrotic keratinocytes, basal cell vacuolation and proteinaceous material below epidermis.

As per his past history and clinical findings, bullous fixed drug eruption due to paracetamol was suspected and patient was asked to stop taking the offending drug. Patient was treated with aspiration of fluid from the bullae and topical steroid - antibiotic cream application and antihistaminic. Tablet ibuprofen was given for pain under careful observation and also to rule out cross sensitivity to NSAIDS, which patient tolerated well. Lesions healed within 3 weeks leaving some hyperpigmentation behind.

DISCUSSION

A fixed drug eruption (FDE) is a type of adverse drug reaction, which characteristically recurs in the same site or sites; each time, the same drug is administered. The number of involved sites may increase with each

exposure.² The lesions are well defined, round to oval, erythematous and edematous plaques that may be followed by a bulla which heals with hyperpigmentation after the drug is discontinued.³ Recent studies from India suggest that fixed drug eruptions (FDEs) account for 20-43% of all cutaneous adverse drug reaction patterns.^{1,4} FDE has many variants of which the Bullous type is rare.. Paracetamol is commonly used antipyretic and analgesic with a weak anti-inflammatory action with a great safety profile in children and adults. Adverse effects to paracetamol, be it cutaneous or systemic, are fairly uncommon hence, may be easily overlooked resulting in delay in diagnosis. Sometimes the patient themselves may not be aware that the cutaneous reaction is caused by the drug, and so careful history taking is required to prove that the cutaneous reaction is drug induced as the main modality of treatment in such cases is discontinuation of the causative drug.

FDE is a type of delayed hypersensitivity reaction mediated by T cells. The trigger stimulus for activation of the T Cells in the epidermis is the expression of intercellular adhesion molecule 1 in lesional skin. There is a large production of interferon γ by the uncontrolled activation of intraepidermal T-cells that result in severe tissue injury. Simultaneously there is apoptosis of keratinocytes. The site specificity in FDE is contributed to Interleukin 20 (IL-20).³

Patients with paracetamol allergy are usually found to be intolerant to NSAIDS. Also patients with NSAIDS intolerance may tolerate paracetamol.⁵ But in this case, the child was intolerant to paracetamol but tolerated NSAIDS well.

Based on the temporal correlation, a history of similar lesion in the past to exposure of paracetamol, recurrence of similar lesions, one at the same site and this time with increased numbers on exposure to paracetamol and resolution of lesions after discontinuation of paracetamol, led us to a diagnosis of bullous FDE due to paracetamol. Causality assessment of these adverse drug reactions was done by the WHO-UMC and Naranjo's algorithm for causality assessment, which indicated "probable," and according to Modified Hartwig and Siegel severity assessment scale, was level 3.

Patch testing alone or together with oral provocation test are used to identify drugs causing adverse reaction and also to check for cross sensitivities caused by other drugs.⁶

CONCLUSION

This case report highlights the need of cautious prescription and use of even relatively safe, over the counter drugs in view of idiosyncratic reactions. Careful history taking in such cases as the patient themselves may not realize that the adverse reaction is due to the drug he

has consumed and discontinuation of the causative drug is the main modality of treatment.

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