

A CASE REPORT ON PARACETAMOL-INDUCED FIXED DRUG ERUPTION-
NAVIGATING UNCHARTED DERMATOLOGICAL TERRAINSurya Soman^{1*}, Shikka Mary Mathew² and Dr. Lissy Skaria³^{1,2}Pharm D interns, Nazareth College of Pharmacy, Othara, Thiruvalla.³Professor & HOD, Department of Dermatology, Venereology and Leprology (dvl), Believers Church Medical College, Kuttapuzha, Thiruvalla.

*Corresponding Author: Surya Soman

Pharm D interns, Nazareth College of Pharmacy, Othara, Thiruvalla.

Article Received on 06/03/2024

Article Revised on 26/03/2024

Article Accepted on 16/04/2024

ABSTRACT

Paracetamol, a widely used over-the-counter analgesic and antipyretic agent, is generally considered safe with minimal adverse effects. However, the spectrum of its potential side effects is not fully elucidated. This case report explores a rare manifestation of paracetamol-induced fixed drug eruption (FDE), Recurring skin lesions at specific sites upon drug exposure, emphasizing recognition, discontinuation, and alternative management for optimal care. a dermatological phenomenon seldom associated with this commonly used medication. We present the case of a 33-year-old female who developed a distinctive FDE following the ingestion of paracetamol.

KEYWORDS: Acetaminophen, Fixed drug eruption (FDE), Cutaneous drug reactions (CDRs).**INTRODUCTION**

Paracetamol, or acetaminophen, a globally prevalent analgesic and antipyretic available without prescription, exhibits central analgesic properties. Its mechanism may involve COX-3 inhibition in the CNS, impacting pain and fever but not inflammation. Limited COX-1 inhibition in the presence of superoxides at inflammatory sites offers an explanation for its weak anti-inflammatory effect.^[1] Despite its widespread use, paracetamol is not entirely without risks, as prolonged usage may result in serious side effects such as liver damage and stomach bleeding. CDRs dominate adverse events in drug therapy, encompassing various reactions like morbilliform rashes, urticaria, and FDE.^[2] FDE manifests as sharply demarcated erythematous lesions on the face, trunk, genitalia, lips, hands, and legs, occasionally leaving residual hyperpigmentation. Drug adverse reactions refer to harmful, unintentional responses occurring at standard therapeutic doses.^[3] Skin reactions vary widely, from isolated lesions to widespread rashes, making them frequent in clinical practice.^[4] Although often asymptomatic without systemic effects, the lesions may recur at the same site upon re-exposure to the causative agent, sometimes accompanied by a local burning sensation.

In the vast spectrum of drugs associated with FDEs, are sulfonamides, barbiturates, tetracyclines, phenolphthalein, salicylates, morphine, codeine, erythromycin, mebendazole, phenylbutazone, dapson,

chlordiazepoxide, indomethacin and quinine.^[5] Paracetamol stands as a rare contributor, comprising less than 1.5% of reported cases, highlighting the exceptional nature of the FDE observed in a patient following a singular oral paracetamol dose.^[6]

CASE REPORT

A 27-year-old female with recurrent fever and red skin lesions on both hands for 6 months and diagnosed multiple fixed drug eruptions induced by paracetamol. The skin lesions were painless, without itching in both hands and the lesions were red, leaving hyperpigmentation. In 6 months she continuously took paracetamol for fever. Blood cell count, kidney and liver function test results, muscle enzyme, serum electrolyte, serum glucose, C-reactive protein, and immunoglobulin (including IgD), Antinuclear antibody, Complement levels (C3 and C4) were within normal ranges. The patient was evaluated for reasons of recurrent fever, but all laboratory test results were normal, and we did not find any reason for recurrent fever. Histologic examination of a skin biopsy is helpful in establishing the diagnosis, Skin punch biopsy shows Morphological features are suggestive of Fixed drug eruption. patient was advised to take Topical Fucidin cream BD, T. Aplev 5 mg OD for 2 weeks, T. Diprobate plus BD apply on lesions. All lesions subsided with PIH.

The diagnosis of Paracetamol-induced fixed drug eruption was confirmed based on the sequence of events:

Paracetamol intake for pyrexia subsequent drug eruptions, and recovery upon Paracetamol withdrawal, strongly aligning with Paracetamol-induced fixed drug eruption, as per the Naranjo probability scale.^[7] The likelihood of Paracetamol-induced fixed drug eruption was deemed probable. The patient was informed about the drug reaction and advised against future use of Paracetamol to prevent recurrence of fixed drug eruption.

DISCUSSION

Paracetamol-induced FDE is a rare but recognized adverse reaction to paracetamol. Paracetamol induced FDE is reported in less than 1.5% of all cases of FDEs.^[8] The pathogenesis involves the activation of memory T cells upon re-exposure to the drug, leading to localized cutaneous inflammation.^[9] Diagnosis primarily relies on clinical history and examination, with patch testing serving as an adjunct in equivocal cases. Management entails discontinuation of the offending drug and avoidance of future exposure. Patient education regarding the potential for recurrence and alternative treatment options is essential for optimal care.

This case report emphasizes the need for heightened vigilance among healthcare providers when encountering patients with recurrent cutaneous eruptions following paracetamol ingestion, particularly in the absence of prior drug reactions. Additionally, it highlights the significance of patient education in facilitating informed decision-making and preventing future episodes. Further research is warranted to elucidate the underlying mechanisms and optimize diagnostic and therapeutic strategies for paracetamol-induced FDE, ultimately enhancing patient care and safety.

CONCLUSION

Paracetamol prescription by physicians and popularity as an over-the-counter medication. Physicians should maintain a high index of suspicion for adverse reactions during Paracetamol therapy and conduct thorough evaluations to discern any drug-associated reactions. It's crucial to promptly recognize and record any skin reactions associated with Paracetamol in patient files, while also ensuring thorough patient education to prevent future recurrences by avoiding its use.

REFERENCE

1. Sharma HL, Sharma KK. Non-steroidal antiinflammatory agents, antirheumatic drugs and antigout drugs. In: Sharma HL, Sharma KK, eds. Principles of Pharmacology. 1st ed. India: Paras Publications, 2007; 374.
2. Noel MV, Sushma M, Guido S. Cutaneous adverse drug reactions in hospitalized patients in a tertiary care center. *Ind J Pharmacol*, 2004; 36: 292-295.
3. Brocq L. "Eruption erythémato-pigmentée fixe due à l'antipyrine". *Annales de Dermatologie et de Vénérologie*, 1894; 5: 308-313.

4. Bentur Y., et al. "Dipyron overdose". *Journal of Toxicology: Clinical Toxicology*, 2004; 42(3): 261-265.
5. Lee A, Thomas SHL, Adverse drug reactions In. Walker R, Edward C, *Clinical Pharmacy and Therapeutics*, 3rd ed. Philadelphia Churchill Livingstone 2003; ISBN 0-433-07138, 1-3.
6. Ozkaya BE, Bayazit H, Ozarmagan G, Drug related clinical pattern in fixed drug Eruption, *Eur J Dermatol*, 2000; 10(4): 288-91.
7. Naranjo CA, Busto U, Sellers EM, Sandor P, Ruiz I, Roberts EA, et al. A method for estimating the probability of adverse drug reactions. *Clin Pharmacol Ther.*, 1981; 30: 239-45.
8. Hire RC, Sontakke S, Dakhale GN, Kamble A, Kale AS. Paracetamol induced fixed drug eruption: A case report. *Int J Basic Clin Pharmacol*, Mar., 2014; 3: 399-400.
9. Bremec T, Demsar J, Luzar B, Adamic M, Pavlovic MD. Longstanding truncal hyperpigmented patches in a young man. *Clin Exp Dermatol*, 2010; 35: e56-7.