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Pathology

THE HIDDEN DANGERS OF PARACETAMOL: A CASE REPORT OF TOXIC EPIDERMAL NECROLYSIS

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ABSTRACT Toxic Epidermal Necrolysis, or TEN, is a severe skin condition that can turn your life upside down. Imagine your skin blistering and peeling off like a bad sunburn, leaving raw areas that could easily get infected. This isn't just a bad rash; it's a medical emergency. It often gets triggered by medications, and one of the surprising culprits is paracetamol, a commonly used pain reliever. In this case report we report a case of a 45-year-old male who presented with complaints of red patches and blisters on his skin after intake of paracetamol. A skin biopsy was performed to obtain a sample for analysis, which was then sent to the pathology lab for routine diagnostic processing. This article will place particular emphasis on discussing the diagnostic points and highlighting the significance of Toxic Epidermal Necrolysis (TEN).

KEYWORDS : Toxic Epidermal Necrolysis (TEN), Lyell's syndrome.

INTRODUCTION

Toxic epidermal necrolysis (TEN) is a rare and severe skin condition characterized by widespread exfoliation and detachment of the epidermis, often triggered by a severe reaction to medications. Toxic epidermal necrolysis (TEN), also known as Lyell's syndrome, is a severe and potentially life-threatening skin reaction characterised by widespread skin detachment and mucosal involvement. It is considered a rare but extremely serious condition, typically triggered by a severe adverse reaction to certain medications or, in rare cases, infections (1,2,6)

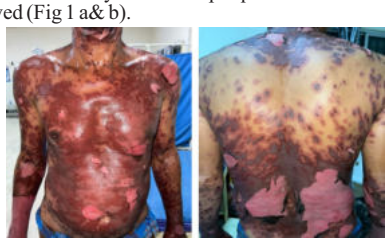
Toxic epidermal necrolysis often starts with flu-like symptoms such as fever, cough, and overall feeling of illness, followed by the sudden onset of painful, blistering skin lesions that quickly progress to widespread skin detachment. The condition can affect large areas of the body, causing the skin to appear as if it has been burned or scalded. Mucous membranes, including those lining the mouth, eyes, and genitals, are often affected, leading to complications such as difficulty swallowing, vision impairment, and genital ulceration (3,4).

The exact cause of toxic epidermal necrolysis (TEN) is not completely understood, but it is thought to involve an immune-mediated reaction triggered by certain medications, most commonly antibiotics, nonsteroidal anti-inflammatory drugs (NSAIDs), and anticonvulsants. Genetic factors may also contribute to predisposing individuals to developing the condition.

In this case report, we present a unique and rare instance of Toxic epidermal necrolysis directly attributed to the commonly used drug, Paracetamol. Through an exploration of the patient's history, diagnostic journey, and subsequent management, this article sheds light on the challenges and complexities of diagnosing and treating drug-induced TEN. By delving into the mechanisms of TEN, the role of Paracetamol in triggering such a severe reaction, and the latest advancements in its diagnosis and management, this case report offers valuable insights into this life-threatening dermatological condition.

Case Report

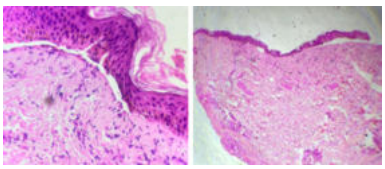
A 45-year-old male presented with complaints of multiple painful reddish lesions on his trunk, upper limbs, and lower limbs, following intake of acetaminophen for headache. Upon examination, multiple targetoid lesions and erythematous plaques with vesicles and bullae were observed (Fig 1 a& b).



1a 1b

Figure 1: (a) shows a clinical presentation of erythematous plaques and vesicles. (b) targetoid lesions and stripped necrotic epidermis.

A skin punch biopsy was done and the sample was sent for histopathological examination. The tissue was fixed in 10% neutral buffered formalin and processed using the standard paraffin-embedding technique. Sections were cut using a rotary microtome and stained with Hematoxylin-Eosin (HE) to obtain a diagnosis. The microscopic biopsy examination showed a detached epidermis with widespread necrosis and minimal inflammatory infiltrate. (Figures 2a& b).



2a 2b

Figure 2: Microscopic examination (H&E) of both high and low magnification shows the separation of epidermis and dermis with epidermal necrosis.

DISCUSSION

Toxic Epidermal Necrolysis (Lyell's syndrome) is a rare but serious skin condition. It is characterised by sudden high fever, systemic toxicity, and intense skin and mucous membranes shedding. The cause is believed to be immunological. Depending on clinical and histopathological findings, it is diagnosed as a rare case of Toxic Epidermal Necrolysis caused by paracetamol. Toxic Epidermal Necrolysis (TEN) is a severe and potentially life-threatening skin reaction that can be caused by various medications, including paracetamol (also known as acetaminophen) (1,3,5).

Paracetamol is a go-to medicine for headaches and fevers. It's generally safe when taken as directed. But sometimes, in rare cases, it can cause an extreme reaction. When your body misfires and thinks paracetamol is harmful, it can start attacking your skin cells. This can lead to TEN, where layers of your skin begin to die and fall off. It's like your body is confused and starts a battle against itself. The exact mechanism by which paracetamol can cause TEN is not fully understood. However, it is believed to involve immune-mediated reactions, where the body's immune system mistakenly targets the skin cells, leading to widespread inflammation and cell death (4,7)

Spotting TEN early can be lifesaving. The symptoms often start with flu-like signs: fever, sore throat, and general malaise. But then, the skin starts to change with symptoms like red or purple patches on your skin, blisters and flaky or peeling skin that resembles severe burns. If you see any of these signs after taking paracetamol, it's crucial to seek medical help immediately. Early detection can make a huge difference in

treatment outcomes (6,7).

The management of toxic epidermal necrolysis (TEN) requires immediate medical attention in a specialized burn unit or intensive care setting. Treatment focuses on stopping the progression of skin detachment, managing pain, preventing infection, and providing supportive care to maintain hydration and electrolyte balance. It is crucial to promptly discontinue the offending medication. Despite aggressive medical intervention, TEN has a high mortality rate. Complications such as sepsis, multi-organ failure, and permanent skin scarring contribute to poor outcomes. Long-term follow-up is often necessary to monitor for complications and provide ongoing supportive care to survivors (3,4)

CONCLUSION

It's important to understand the risks associated with taking paracetamol. While most people can take it without any issues, there is a potential for severe reactions like Toxic Epidermal Necrolysis (TEN). It is vital to be aware of the symptoms and seek prompt medical attention to protect yourself from this serious condition. Next time you reach for a pain reliever, remember to stay informed and prioritize your health. Although it's impossible to predict who will develop TEN, you can take some precautions. Always read labels and follow dosage instructions carefully. If you have a history of drug allergies or skin reactions, be sure to inform your healthcare provider before taking any new medication. Staying informed is your best defence.

Conflict of Interest: None

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