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CASE REPORT

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Paracetamol Toxidermias: report of three cases

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ABSTRACT

Paracetamol toxidermia is a rare occurrence in dermatology. Paracetamol is known for its analgesic and antipyretic effects and is widely prescribed for children and adults. The most frequently described adverse effect is liver toxicity. The occurrence of toxidermia after taking paracetamol remains possible but rare. We report three cases of toxidermia (two fixed pigmented erythema and one Lyell's syndrome) following a paracetamol intake in a Moroccan population.

KEYWORDS

Paracetamol; Toxidermias; Lyell's syndrome; Fixed pigmented erythema

ARTICLE HISTORY

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Introduction

Paracetamol (acetaminophen) is a drug very widely prescribed and used for its analgesic and antipyretic indications. It is on the list of the best-selling drugs in the world. Its adverse effects are rare, and it is essentially liver toxicity, following an overdose or in subjects at risk. Addictions can occur after the use of this molecule and can range from a simple maculopapular rash to Lyell's syndrome. We report three cases of toxidermia (two fixed pigmented erythema and Lyell's syndrome) following a paracetamol intake in a Moroccan population.

Case Presentation

Case 1

A 59-year-old patient with a history of articular rheumatism under symptomatic treatment with paracetamol and thiocolchicoside. The patient has an episode of fixed pigmented erythema on the back, but the causative drug was not specified. The patient was consulting for itchy pigmented lesions on the back that are gradually increasing in volume. The patient's examination found pseudo-annular infiltrated pigmented macular lesions with an erythematous border involving the back (Figure 1). The most probable diagnosis was a fixed pigmented erythema. The pharmacological investigation incriminated paracetamol in the first place. The cutaneous biopsy was in favor of a fixed pigmented erythema at the last stage (pigmentary incontinence + discreet vacuolar lichenoid infiltrate). The incriminated drug (paracetamol) was stopped, with topical corticosteroid application on the lesions with good evolution.

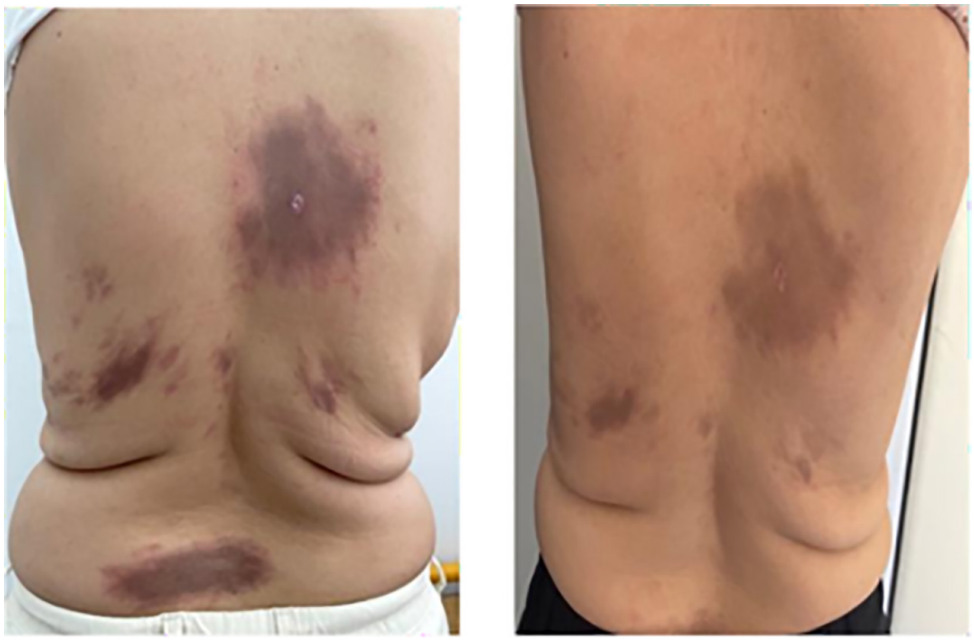

Figure 1. Fixed pigmented erythema in a 59-year-old woman.

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Case 2

A 62-year-old patient followed for a breast tumor under anastrazole, showed a pruritic erythematous eruption two days after the introduction of paracetamol. On a clinical examination, the patient was apyretic. However, we noted the presence of non-infiltrated erythematous plaques with a bullous and pustular center in places, at the axillary and abdominal level (Figure 2). In addition, there were perianal erosions without involvement of the oral or genital mucosa. Under a topical corticosteroid treatment, the evolution was marked by healing with residual pigmentation. The pharmacological investigation incriminated paracetamol first, and the skin biopsy showed a largely necrotic epidermis, interface dermatitis, and basal vacuolation in favor of drug eruption. Two months later, the patient showed new lesions on the same sites after an accidental reintroduction of paracetamol, which supported our diagnosis of fixed pigmented erythema despite the negative patch test.

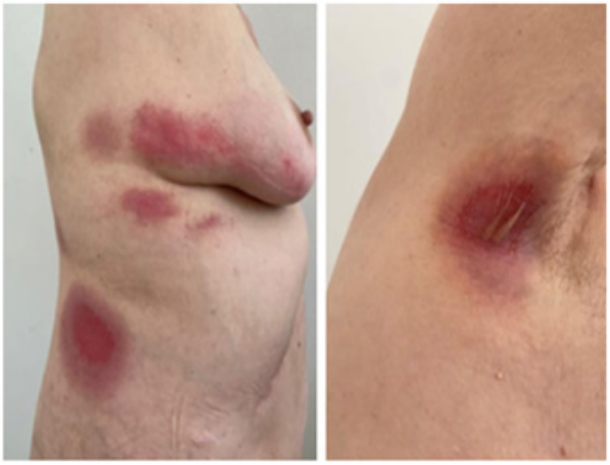

Figure 2. Fixed pigmented erythema in a 62-year-old woman.

Case 3

A male child, aged three years and two months, showed a rash that appeared 48 hours after taking paracetamol given by his parents for an influenza-like illness with fever. He was admitted to the Pediatric Emergency Department with a feverish rash and impaired consciousness. On admission, the clinical examination found a patient 14/15 on Glasgow score, feverish at 40°C, who showed merging and generalized erythematous macules, reaching more than 70% of the total body surface, with a 30% greater skin detachment of the entire body surface. Nikolsky's sign was positive (Figure 3). The child also showed hemorrhagic cheilitis and bilateral conjunctival hyperemia. The initial biological assessment found no abnormality in the blood count or the liver assessment. Renal function was normal. The pharmacological investigation incriminated paracetamol in the first position. The diagnosis of Lyell's syndrome due to paracetamol was retained. The evolution was marked by the healing of the skin lesions with ocular residual under treatment.

Discussion

The interest of our observation lies in the rarity of toxidermias induced by paracetamol. Paracetamol is one of the most prescribed drugs in the world as an over-the-counter medication. Paracetamol is considered a first-line treatment for fever and acute pain [1].

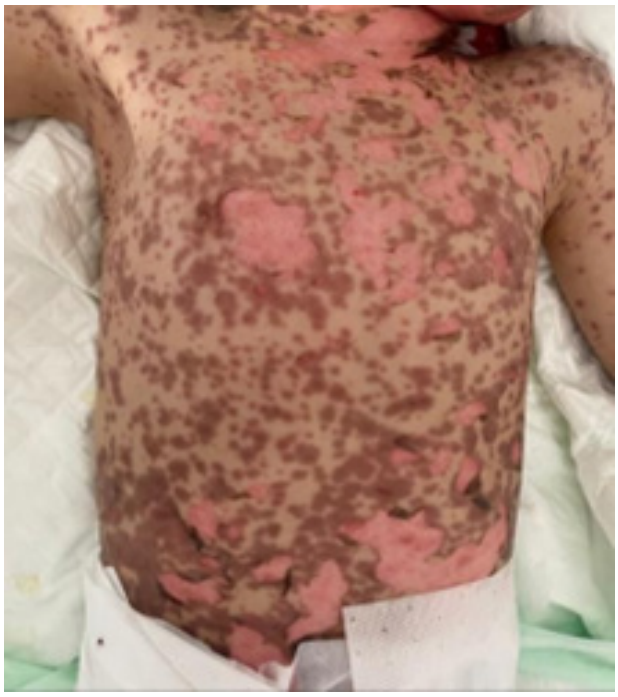

Figure 3. Lyell's syndrome in a 3-year-old child.

The drug eruptions most frequently linked to this molecule are maculopapular rash, urticaria, acute generalized exanthematous pustulosis, fixed pigmented erythema and purpura. There are also serious toxidermias induced by paracetamol, in particular, cases of Lyell's syndrome or Stevens-Johnson syndrome. Serious allergic reactions such as anaphylactic shock, bronchospasm, and angioedema can be triggered by this molecule [2].

Fixed-pigmented erythema is a very particular drug eruption. It is characterized by a typical clinical appearance with single or multiple lesions, often well-rounded or oval in shape, with a pigmentogenic evolution which is very suggestive [3]. In the literature, we find that the occurrence of fixed pigmented erythema after taking paracetamol is not uncommon, hence the interest of our work to focus on this drug addiction, given the wide use of this molecule in our context [4].

Serious toxidermias induced by paracetamol are found especially in children rather than in adults, classified for the majority in lyell syndrome with involvement of the mucous membranes and fever, which conforms with our case [5].

Stevens-Johnson syndrome and Lyell's syndrome are among the serious toxidermias. They are characterized by skin detachment of less than 10% or more than 30% in the Stevens-Johnson and Lyell, respectively. During these serious toxidermias, the vital prognosis can be put into play because they are often associated with serious complications of an infectious and hydroelectrolytic disorder [6]. In August 2013, the US Food and Drug Administration (FDA) issued an alert regarding the risk of Stevens-Johnson syndrome or Lyell syndrome associated with paracetamol and recommended that patients with a history of severe paracetamol toxidermia should never reuse it [7].

According to a study on paracetamol, 75% of patients with a paracetamol allergy tolerate taking non-steroidal

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anti-inflammatory drugs (NSAIDs), which can represent an alternative in certain indications [8].

Conclusions

In the absence of a sufficiently sensitive and specific diagnostic test, the diagnosis of paracetamol drug eruption is therefore based on an imputability approach taking into account, for each case, the clinical presentation, the precise chronology of events and drug intake, as well as the elimination of differential diagnoses.

Disclosure statement

No potential conflict of interest was reported by the authors.

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