

Case of paracetamol allergy in a female soldier

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SUMMARY:

Hypersensitivity reactions to paracetamol remain exceptional. Immediate reactions most often occur in patients with intolerance to non-steroidal anti-inflammatory drugs. The occurrence of an allergy to a medication essential in the field for military personnel needs a reassessment of their health status, taking into account the demands of their profession within the Armed Forces, and potentially a medical-military fitness.

KEYWORDS:

Paracetamol; immediate hypersensitivity; allergy; military; fitness

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I. INTRODUCTION:

Paracetamol allergy is rare. Most often, it corresponds to a pharmacological hypersensitivity via the inhibition of COX-1 and COX-2; an allergic mechanism is exceptional [1]. We report in this paper the first case of immediate allergic hypersensitivity to paracetamol recorded in the allergy department of the Rabat military hospital in a 33-year-old female soldier, raising concerns about her medical and military fitness.

II. CASE REPORT:

Ms. N.S., 33 years old, with no history of substance abuse, no known food or drug allergies, and no known asthma, allergic respiratory diseases, or atopy. The history of the illness dates back to August 2025, with the onset of pruritic maculopapular erythematous skin lesions on the trunk, 4 hours after the consumption of 1 g of paracetamol orally and disappearing within 24 hours. One month later, and after 2 hours of consuming the same medication at the same dose, the patient also presented with diffuse urticarial skin lesions affecting the trunk and back. Two months later, the 3rd episode manifested as generalized urticaria associated with facial angioedema and bronchospasm 2 hours after consuming 1 g of paracetamol for dysmenorrhea. The patient did not present any reactions following the consumption of non-steroidal anti-inflammatory drugs (NSAIDs) during this same period. Two months after the last reaction, the patient's management in the allergy department consisted, after informed consent signed by the patient and elimination of contraindications, and following the recommendations of the European Academy of Allergy and Clinical Immunology (EAACI) concerning the dilutions and preparations of drugs, first of all to look for a hypersensitivity reaction to aspirin by an oral provocation test which came back negative, 4 weeks later skin tests, prick tests and intradermal reaction (IDR) to paracetamol were carried out which came back negative, the oral provocation test carried out revealed an immediate hypersensitivity reaction (IHR) in the form of urticaria affecting the back, trunk and face 20 min after a cumulative dose of 600 mg of paracetamol (fig 1), the drug causality of the paracetamol was established according to the Naranjo score. A diagnosis of immediate hypersensitivity reaction (IHR) to paracetamol was made, and the patient was advised to discontinue this medication while allowing the use of aspirin and NSAIDs. Spirometry and ENT examination were normal.

III. DISCUSSION:

Paracetamol is a drug with an analgesic and antipyretic mechanism of action that is not yet fully understood. Like some NSAIDs, paracetamol can have an anti-COX-1 and anti-COX-2 effect, resulting in excessive leukotriene synthesis. Immediate hypersensitivity reactions, manifesting cutaneously and/or respiratoryly, can be explained by this mechanism of action in individuals intolerant to NSAIDs. However, in individuals who are not intolerant to NSAIDs, the mechanism explaining this immediate hypersensitivity reaction is debated [1,2]. In this second situation, the mechanism may be allergic, as shown in a rare case of immediate hypersensitivity of allergic mechanism to paracetamol in a 19-year-old with no prior medical history and positive skin tests. The prick test was positive at 10 mg/ml and the intradermal test (IDR) was also positive at 0.1 mg/ml (10^{-2}), performed 4 weeks after a 50 mg oral booster dose of paracetamol, justified by an initial

series of negative tests performed more than 3 months after the last reaction [3]. Paracetamol is the most frequently used analgesic and antipyretic drug, but allergy to this product remains rare and must be taken into account. In a series of 29 cases collected over a 4-year period, women were found to be more affected, and the lesions observed were dominated by fixed drug eruption (51.8%) and urticaria (34.5%) [4]. Among the essential medications used in the field in the military, and which are beyond dispute, is paracetamol, which remains indispensable, particularly in cases of hyperthermia. In the event of a documented allergy to a medication required in the field, unfitness for duty is discussed on a case-by-case basis with the expertise of the unit's physician, who assesses the soldier's condition and makes a decision regarding unfitness based on the context and conditions of the missions [5].

CONFLICT OF INTEREST: None

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Fig1 : superficial diffuse urticaria on the back.