Lichenoid drug eruption associated with rifampicin

Éruption lichénoïde associée à la rifampicine

Rifampicin is a semi-synthetic antibiotic used especially in the treatment of tuberculosis. Common side effects include fever, gastrointestinal disturbances, immunological reactions and cutaneous adverse drug reactions (CADR) such as rash, fixed drug eruptions and urticaria [1]. However, data concerning rifampicin inducing lichenoid drug eruption (LDE) are very limited. Herein, we present a case of LDE occurring after anti-tuberculosis therapy and most likely induced by rifampicin.

A 53-year-old man was diagnosed with pulmonary tuberculosis. He was treated with fixed-dose combination tablets 5 tab per day (isoniazid 75 mg, rifampicin 150 mg, ethambutol 275 mg, pyrazinamide 400 mg). After beginning this treatment regimen, the patient developed a localized erythematous eruption on his face. His pneumologist stopped isoniazid and prescribed rifampicin, ethambutol and pyrazinamide separately without complete resolution. A symptomatic treatment by anti-histaminic was added. Cutaneous symptoms worsened and four weeks later, the patient developed a widespread pruritic eruption. He was admitted to the dermatology department. Clinical examination revealed diffuse papular erythema with lichenoid plaques on the face, the neck, the cleavage and arms. Laboratory investigations including full blood count, renal and liver function tests were normal. Serology of hepatitis C was negative. A skin biopsy revealed multiple necrotic keratinocytes associated with exocytosis of lymphocytes and a band-like interface made of sub-epidermal infiltration of eosinophils (figure 1). Clinical and histological patterns suggested a LDE induced by anti-tuberculosis drugs. This adverse drug reaction was reported to the Pharmacovigilance department on the 25th August 2017.

Rifampicin, ethambutol and pyrazinamide were stopped. A significant improvement was noted 10 days after drugs withdrawal. Isoniazid was reintroduced successfully. Ethambutol and pyrazinamide were restarted sequentially, to which the patient developed no intolerance. The diagnosis of rifampicin inducing LDE was retained.

LDE is an entity that can occur after administration of numerous medications. The challenge remains in the establishment of the diagnosis since it could be difficult to distinguish these eruptions from idiopathic lichen planus (LP) due to similarities in clinical and histological features. Lesions of LDE are often larger in size, less monomorphic and more prone to be eczematous and associated with desquamation in contrast to that of LP. They often spare the oral and genital mucosa. Moreover, focal parakeratosis, eosinophils, a deeper perivascular and periadnexal infiltrates are signs more typical of LDE [2]. Our patient had most of these clinical and histopathological findings suggestive of LDE. In addition, the diagnosis of rifampicin-induced LDE is most likely than idiopathic LP since the closely linked onset of symptoms, the complete resolution after withdrawal of rifampicin and the well tolerance of isoniazid, ethambutol and pyrazinamide rechallenge.

Anti-tuberculosis inducing CADR are often a cause of drug interruption and change of treatment. This attitude impacts on treatment failure, the development of drug resistance, relapse and the transmission of infectious disease.

To the best of our knowledge, we present the second case of rifampicin-induced LDE. The other case was reported by Shahul HA et al. [3] and was about a 65-year-old man who developed an erythematous and pruritic eruption on his back one month after starting an anti-tuberculosis therapy including isoniazid, rifampicin, ethambutol and pyrazinamide. The diagnosis of lichenoid drug eruption was retained. Clinical symptoms healed gradually after stopping anti-tuberculosis drugs. Lesions reappeared at restarting rifampicin. Thus, diagnosis of rifampicin inducing LDE was established.

Figure 1
Skin biopsy showing sub-epidermal infiltration of eosinophils. Biopsie cutanée montrant un infiltrat sous-épidermique de polynucléaires éosinophiles.
Anti-tuberculosis therapy may be linked to LDE. Ethambutol, pyrazinamide and isoniazid may induce LDE. However, reports of rifampicin-induced LDE are very rare [1].

The exact pathogenesis of LDE is not established. Both toxic and allergic pathways are implicated. However, allergy, including delayed type allergy seems to play major role. An autoimmune reaction by T-cells on the epidermis may be the primary pathological event in the development of LDE [4].

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References


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