POSTER N°8

Acute pancreatitis induced by topical isotretinoin: an unprecedented association

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Clinical case

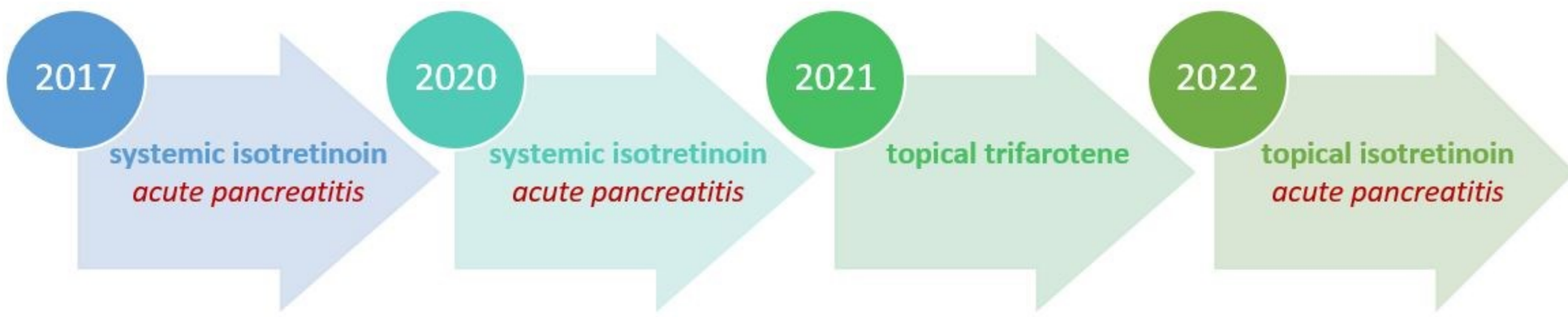
A 25-year-old patient presented with severe acne resistant to first-line topical treatments and systemic antibiotics.

In 2017, two weeks after the introduction of systemic isotretinoin, the patient developed acute pancreatitis. An ethylic trigger was admitted.

In 2020, a second introduction of systemic isotretinoin was initiated. One week later, patient presented another episode of acute pancreatitis. A complete workup was performed, excluding mechanical (lithiasis), metabolic (hypertriglyceridemia, hypercalcemia), immunological (IgG4 disease) or genetic (mucoviscidosis, alpha-1-antitrypsin deficiency) causes. A drug-induced cause was proposed with a high imputability score for systemic isotretinoin.

In 2021, as a therapeutic alternative, topical trifarotene was proposed, which was well tolerated by the patient but the beneficial effect was suboptimal.

In 2022, after discussion with the patient and checking the package leaflet, topical isotretinoin was prescribed. After two weeks of twice-weekly application, the patient developed again a new episode of acute pancreatitis.



What we already know

Isotretinoin causing acute pancreatitis through hypertriglyceridemia is rare and the incidence is not reported. In a retrospective report from 2017, the incidence of lipid disorders including hypertriglyceridemia in patients taking systemic isotretinoin was up to 3.11% but no case of acute pancreatitis was mentioned. The natural evolution of triglycerides elevation is predictable. It helps to guide the monitoring of serum lipid levels. The latest guidelines recommend laboratory monitoring at week 8. However, it cannot predict the timing of drug-induced pancreatitis.

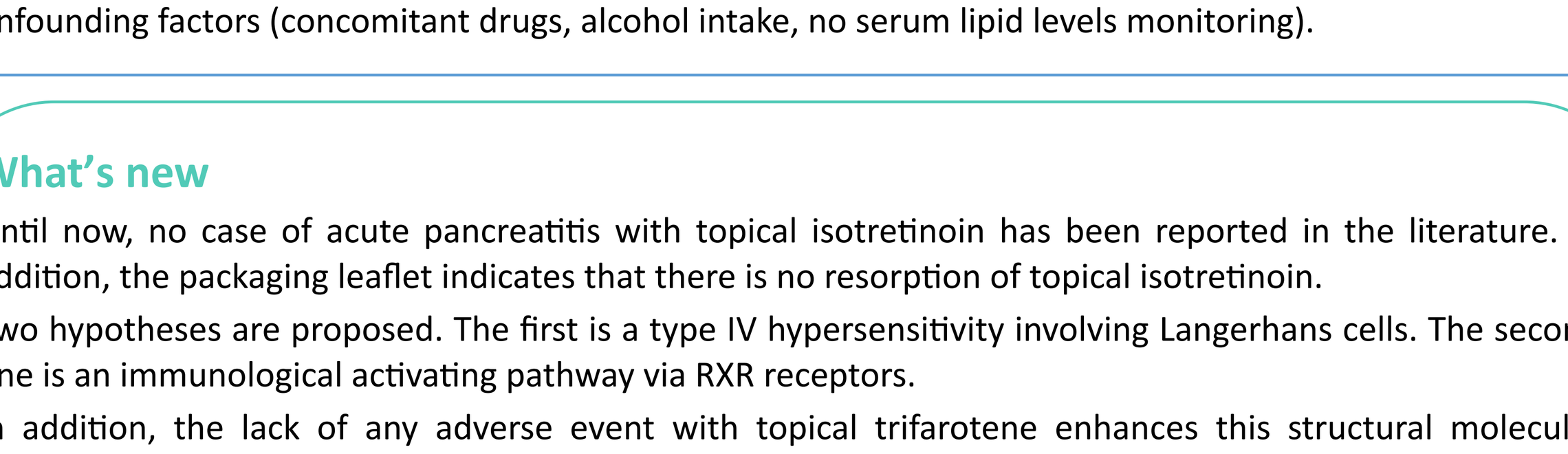
Idiosyncratic pancreatitis is even rarer. Only 21 cases have been reported in literature, most of which had confounding factors (concomitant drugs, alcohol intake, no serum lipid levels monitoring).

What's new

Until now, no case of acute pancreatitis with topical isotretinoin has been reported in the literature. In addition, the packaging leaflet indicates that there is no resorption of topical isotretinoin.

Two hypotheses are proposed. The first is a type IV hypersensitivity involving Langerhans cells. The second one is an immunological activating pathway via RXR receptors.

In addition, the lack of any adverse event with topical trifarotene enhances this structural molecular hypothesis. Further investigations are planned.



1. Opel D et al. Not every patient needs a triglyceride check, but all can get pancreatitis: a systematic review and clinical characterization of isotretinoin-associated pancreatitis. Br J Dermatol. 2017 Oct;177(4):960-966.

2. Atiq MU, Raza A, Ashfaq A. idiosyncratic reaction causing a rare side effect: isotretinoin-induced pancreatitis. Cureus. 2019 Nov 8;11(11):e6102

3. Roaccutane (isotretinoin) 0.05% topical gel [package insert]. Monaco: SERP; 2018