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Case report: Recall dermatitis at patch-test sites after oral provocation with mesalazine

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Clinical Implications

Recall dermatitis is a rare localized drug-induced acute inflammatory skin reaction mediated by skin-resident memory T cells. We present a recall dermatitis after oral provocation with a 5-aminosalicylic acid (5-ASA) preparation occurring at previous 5-ASA skin patch sites.

Recall dermatitis is a localized drug-induced acute inflammatory skin reaction mediated by skin-resident memory T (T_{RM}) cells.^{1,2} In rare cases, it can occur after patch testing with certain drugs.³ Although the precise mechanism by which T_{RM} cells develop is unknown, the combination of a certain HLA type with a relevant cofactor (virus infection, presence of drug metabolite, or decreased drug clearance) is considered a probable cause.⁴ We present a case with a known history of drug hypersensitivity to sulfasalazine who underwent patch tests with different 5-aminosalicylic acid (5-ASA) preparations followed by oral provocation with 5-ASA (Mezavant) 2 months later. After oral provocation, T_{RM} cells at the previous 5-ASA patch-test site were reactivated, resulting in a recall dermatitis.

A 65-year-old woman with a history of ulcerative colitis (UC) was referred for an allergic workup. In 1985, she developed an erythematous rash, fever, and elevated liver enzymes 2 weeks after the introduction of sulfasalazine, suggestive of severe cutaneous adverse reaction (SCAR). The sulfasalazine was stopped, and she was treated with prednisolone. The UC stayed in remission for years without further treatment. In 2016, she had a flare-up for which treatment with a 5-ASA agent was proposed as most patients with an allergy for sulfasalazine do tolerate 5-ASA preparations.⁵⁻⁷ Patch tests were performed with different brands of 5-ASA (mesalazine, Salofalk, Asacol, Pentasa, and Mezavant), which were applied on the patient's back for 2 days under occlusion. Readings in accordance with guidelines resulted in a positive patch-test reaction (+++) only for Salofalk 30% PET and 30% aqua at day 3 and day 7 (Table I; Figure E1, available in this article's Online Repository at www.jaci-inpractice.org).⁸ Patch tests for the active components and the excipients were not available.

There are no data of patch testing with a 5-ASA preparation. In general, sensitivity of patch tests investing Drug reaction with eosinophilia and systemic symptoms ranges from 32% to 64% depending on the drug tested.⁹ The cause of this variability is unknown. Previously suggested explanations are: (1) dependence of T_{RM} cell accumulation on type of delayed drug reaction, culprit drug, and/or presence of specific HLA alleles; or (2)

TABLE I. Results of patch tests and oral provocation test at different time points

Tested medication	Concentration, vehicle	Patch test, day 3	Patch test, day 7	24 h after taking a single tablet of Mezavant 1200 mg orally
Asacol 800 mg	30% PET	–	–	++
	30% aqua	–	–	+
	“as is”*	–	–	–
Mezavant 1200 mg	30% PET	–	–	+
	30% aqua	–	–	++
	“as is”	–	–	+
Pentasa granulaat mga 1000 mg	30% PET	?	–	–
	30% aqua	?	–	–
	“as is”	–	–	–
Salofalk msr 500 mg	30% PET	+++	+++	+++
	30% aqua	+++	+++	+++
	“as is”	–	–	–

*Ground into a fine powder.

technical issues like suboptimal drug concentration or vehicle applied during testing.⁴

Two months later, an oral provocation with Mezavant (1200 mg) was performed. At day 2, the patient experienced malaise, and an inflammatory reaction occurred at the patch-test sites (Salofalk, Mezavant, and Asacol; Figure 1; Figure E2, available in this article's Online Repository at www.jaci-inpractice.org). Laboratory tests did not show any abnormalities. Most likely, a technical issue explains why Mezavant and Asacol did not respond in the patch test.

We report a case in which oral provocation with Mezavant resulted in recall dermatitis 2 months after 5-ASA skin patch tests were performed in a patient who developed SCAR to sulfasalazine decades earlier.

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FIGURE 1. Reactions that occurred 1 day after oral provocation with Mezavant 1200 mg after skin patch tests performed 2 months earlier.

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FIGURE E1. Erythema and induration of the skin for numbers 2 (Salofalk 30% PET) and 3 (Salofalk 30% aqua) at day 3 of patch testing.



FIGURE E2. Close-ups showing erythema and induration of skin previously exposed to Salofalk 30% PET and Salofalk 30% aqua.