

# Cross Reactivity to Balsalsalazide in a Mesalamine Hypersensitive Patient

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## Objective:

To determine the safety of replacing mesalamine with other 5-aminosalicylic (5-ASA) formulations in patients with hypersensitivity to mesalamine.

## Introduction:

Mesalamine is a 5-aminosalicylic acid (5-ASA) derivative that is used to treat inflammatory bowel disease (IBS). It inhibits cyclooxygenase, lipoxygenase, and platelet activating factor (PAF). It also inhibits the production of IL-1, IL-2 and TN- $\alpha$ . Patients with IBS who are hypersensitive to mesalamine may be candidates for other 5-ASA derivatives such as balsalazide. Balsalazide is a dimerized pro-drug that includes 5-ASA attached to an inert molecule which is active only in the colon.

## Case Presentation

A 39-year-old Caucasian female presented to our service after experiencing anaphylaxis following use of mesalamine (Asacol). She had been using mesalamine for 19 years to control her mild to moderate ulcerative colitis. Six months ago, she experienced diffuse urticaria and generalized pruritus one hour after taking her morning dose of mesalamine. She took diphenhydramine, and her symptoms resolved within hours. The next day, she took her morning dose of mesalamine and experienced immediate anaphylaxis. She developed laryngeal edema, diffuse urticaria, and generalized pruritus. The patient was treated with epinephrine, and her symptoms resolved. The patient underwent a provocative drug challenge with balsalazide (Giazo) in an outpatient clinic over 2 days.

## Methods

A provocative drug challenge was performed in a supervised outpatient clinical setting. Explanation of the risks were given to the patient and written consent was obtained prior to initiation of the challenge. Percutaneous skin prick testing was first performed with a diluted solution consisting of 1.1 grams of a balsalazide tablet (Giazo), and then the tablet itself. Vitals were recorded after each dose. Following skin prick testing, intradermal testing was performed with serial dilutions. The final phase included an oral challenge. Please refer to the table in the Results section for information regarding time intervals and dosing.

## Results

The patient reacted on the second day of testing. She experienced severe cutaneous swelling of her hands and generalized pruritus. The patient was administered oral antihistamines and corticosteroids. Her symptoms resolved and she was monitored over the next 4 hours. The patient had an epinephrine auto-injector and was safely discharged home.

Time	Amount	Peak Flow	BP	HR	SaO2	Symptom
9:30 am	SPrick, liquid	350	112/78	87	98%	fev1=94, none
	SPrick, tablet	350	112/78	87	98%	none
9:45 am	1/10,000 intradermal	350	110/80	73	97%	none
10:00 am	1/1,000	350	110/75	73	98%	none
10:15 am	1/100	370	110/80	68	97%	none
	Oral Challenge					
11:45 am	taste	350	110/70	74	97%	none
12:00 am	137.5 mg	350	110/75	72	98%	none
12:35 am	275 mg	350	110/80	75	97%	none
1:00 pm	550 mg	350	110/80	65	96%	none
1:45 pm	1,100 mg	350	105/80	72	97%	none
2:30 pm	Vitals	350	110/80	92	99%	none
3:00 pm	Vitals	350	100/80	69	97%	none
4:00 pm	Vitals	340	96/68	79	99%	none
4:30 pm	Vitals	360	99/68	81	97%	none
5:30 pm	Vitals	360	100/70	87	98%	none
	Next Day					
9:30 pm	1,100 mg	370	100/80	72	98%	Reacted: Swelling of Hands, Generalized Pruritus, Flushing



Percutaneous Skin Prick



Intradermal Testing

## Conclusion

Cross-reactivity may occur between different 5-ASA preparations despite their structural differences. Patients with inflammatory bowel disease who are hypersensitive to mesalamine may also react to balsalazide and olsalazine. Mesalamine hypersensitive patients should not be started on these medications without undergoing a provocative drug challenge. We designed an outpatient protocol that will safely enable patients to undergo testing in an office setting

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