

PRELIMINARY AND SHORT REPORTS

CONTACT ALLERGIC DERMATITIS DUE TO THE PROCAINE FRACTION
OF PROCAINE PENICILLIN

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We believe that the following is the first report of a patient who developed a sensitivity to the procaine—and not to the penicillin—from contact with procaine penicillin. We have had a number of patients with reactions of sensitivity following the use of procaine penicillin in an ointment as well as following its injection; but in all instances the sensitivity was due to the penicillin alone. Concomitant development of cross-sensitization to related and unrelated chemicals is also described.

CASE REPORT

I. D., a white male physician, age 38, presented an extensive dermatitis of the hands of 5 weeks duration. The eruption was present on both hands, mostly on the dorsum but was also present on the palms and sides of the fingers and extended to the wrists. It presented all the elements of an acute dermatitis with vesiculation.

HISTORY

The eruption first manifested itself as an interdigital vesiculation of the left hand. This was diagnosed as a moniliasis by a dermatologist and was treated accordingly. Among the medications used was ammoniated mercury and tar ointments. The patient had never had a dermatologic disorder previously. No history of dermatophytosis could be elicited. One year previously he had had dental care with injections of a local anesthetic which did not elicit symptoms. He had been using procaine penicillin in his practice for some months before the onset of the present eruption.

A diagnosis of contact dermatitis was made with the thought that possibly the eliciting substances were contactants met with in his daily practice.

Results of Sensitivity Tests:

Intradermal tests with 2000 units crystalline penicillin G and trichophyton 1:30 were negative. Patch tests were made with the following substances:

Rubber Gloves	0
Powder from Gloves	0
Medicated alcohol	0
Gold sodium thiosulfate solution 10 mg/cc	0
Ammoniated Mercury Ointment (10%)	4+
Procaine penicillin in oil (monocillin)	4+

Because of his negative intradermal test to penicillin G, 2000 units, and negative patch test to penicillin ointment (1,000 u per gram—Lederle) and the positive patch test to the procaine penicillin, a patch test was made with 2% novocaine solution. This gave a 4+ reaction.

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Tests for Cross-sensitization:

Sulfathiozole cream, 5%	2+	Paraphenylenediamine solution, 1% . . .	4+
Butyn sulphate solution, 2%	3+	Metycaine solution, 10%	0
Picric acid solution, 2%	2+'	Para-aminobenzoic acid solution, 4% . .	1+
Pontocaine solution, 2%	1+	Nupercainal ointment, 1%	0
Sulfanilamide ointment, 5%	0	Benzocaine in Petrolatum, 10%	2+
Phenol solution, 2%	0	Methyl orange solution, 2%	2+'

DISCUSSION

Our case is one of acquired sensitization to procaine in a physician from contact with procaine penicillin in his daily practice. In addition there was a superimposed dermatitis from the ammoniated mercury used therapeutically.

Although he had been exposed to procaine previously by his dentist it is unlikely that this was the sensitizing exposure since he was able to come in contact with penicillin procaine for months before the dermatitis developed. If it is maintained that procaine penicillin is a definite compound and not a mixture it is difficult to explain why the usual sensitivity following its use parenterally is usually manifested by penicillin G sensitivity alone and in this case it was due to the procaine alone. It seems to us that this indicates at best a very weak linkage between penicillin and procaine.

Our case is of further interest in that the patient manifested cross-sensitivity to related substances confirming the findings of Sidi (1), Meltzer and Baer (2) and others; and to apparently unrelated substances. If sensitization to the procaine part of penicillin should lead to similar cross-sensitivity in other instances it would indeed be a serious complication. Fortunately such cases must be rare.

REFERENCES

1. SIDI, E.: LES ACCIDENTS CUTANES DES TEINTURES CAPILLAIRES. Editions Medicales Flammarion, 1945
2. MELTZER, L. AND BAER, R. L.: Sensitization to Monoglycerol Para-Aminobenzoate J. Invest. Dermat. 12: 31, 1949