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## ANAPHYLACTOID REACTION TO ORAL PENICILLIN G; CASE REPORT

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Of the possible reactions to penicillin, the most dangerous is anaphylactic shock. Most anaphylactic reactions reported have been due to procaine penicillin administered parenterally.<sup>1</sup> Anaphylactic reactions can, however, occur with orally administered penicillin. In a recent summary of recorded cases of anaphylactic reactions to oral penicillin, Maganzini<sup>1</sup> collected a total of eleven cases with one death.

Reactions to orally administered penicillin have been reported to occur less frequently than to parenterally administered penicillin.<sup>2,6</sup> The incidence of reactions of all types to orally administered penicillin has been noted to be 0.2 to 2.0 percent.<sup>7,9</sup> In contrast, reactions following parenteral administration of penicillin can be expected to occur in 2 to 2.5 percent of children,<sup>2,10</sup> 5 percent of non-allergic adults, and 15 percent of allergic adults.<sup>11</sup>

A case report of an anaphylactic reaction following the ingestion of oral penicillin G is presented.

### Case Report

E. K., Henry Ford Hospital Case Number 78 01 79, a twenty-five year old white male dishwasher, was admitted to the Emergency Room at 10:30 A.M. on May 24, 1955. He was first seen leaning against the receiving desk, vomiting and unable to talk. The initial history was obtained from a friend. He was reported to have developed a pruritic, erythematous rash over his face, chest, arms and legs, accompanied by a complaint of weakness, thirty minutes prior to admission. Fifteen minutes later he vomited clear fluid and the remnants of a sandwich eaten one hour before.

*Physical Examination:* The temperature was 97.6° F., pulse 100 per minute, respirations 20 per minute, blood pressure 40/0 mm. of Hg. There was a diffuse, macular, erythematous rash on the face, chest, arms and legs which blanched on pressure. The patient was vomiting and retching violently and was perspiring profusely. The chest was clear to percussion and auscultation. The heart was rapid with regular rate. There was minimal epigastric tenderness. The examination was otherwise essentially negative.

*Hospital course:* He was given 0.1 mgm. of epinephrin hydrochloride subcutaneously and 1000 cc. of 5 percent glucose in water was started intravenously. Ten minutes later, the blood pressure was 90/60 mm. of Hg. Hydrocortisone, 100 mgm. in 1000 cc. of 5 percent glucose in physiological saline, was started intravenously at this time. At 11:00 A.M. the blood pressure was 60/0 mm. of Hg. and 4 cc. of 0.1 percent levarterenol bitartrate (Levophed) were added to the 1000 cc. of 5 percent glucose in water. One hour after admission, the blood pressure was 100/60 mm. of Hg., and subsequently remained normal. As the blood pressure rose towards normal, the patient became responsive and was able to relate pertinent history.

At this time he stated that he had sustained a laceration of the hand on May 7, 1955 which was treated with one injection of 300,000 units of procaine penicillin G and oral penicillin G tablets which he had taken sporadically up to one week prior to admission. He had ingested a single tablet of 200,000 units of penicillin G thirty minutes prior to the onset of the present illness. There was no past history of allergic reaction or previous penicillin sensitivity.

Subsequent treatment consisted of hydrocortisone orally for fourteen days, beginning at 80 mgm. daily with gradual reduction to 30 mgm. daily.

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## Birk and Quinn

Except for marked asthenia and two transient febrile episodes during the first three days of hospitalization, he was asymptomatic and remained so following discharge. He was last seen on August 15, 1955 for an unrelated complaint. There had been no further symptoms related to the recent illness.

*Laboratory examination:* May 24, 1955: White blood count 15,700 per cu.mm. with 89 percent neutrophils, 10 percent lymphocytes and 1 percent monocytes, Urinalysis: specific gravity 1012, alkaline reaction, albumin negative, Benedict's reaction three plus, acetone negative. (This specimen was obtained during intravenous glucose administration.)

May 25, 1955: Hemoglobin 14.6 gms. percent. White blood count 16,470 per cu.mm. with 81 percent neutrophils and 19 percent lymphocytes. Sedimentation rate 7 mm. per hour (Wintrobe). Fasting blood sugar 97 mgm. percent. Non protein nitrogen 36 mgm. percent. Kline exclusion test negative.

### Summary

The case reported represents a typical anaphylactic reaction to penicillin.

The etiology of the reaction was unknown at the onset of therapy because of the inability of the patient to give an adequate history. The findings of a generalized pruritic erythematous rash and signs of vascular collapse led to the institution of therapy for anaphylactic shock.

It is generally accepted that reactions are less frequent following oral than parenteral administration of penicillin, but it is important to emphasize that anaphylactic reactions may occur following orally administered penicillin.

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