



# CASE REPORTS

## Urticaria from Contact With Water

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RECENTLY TWO PATIENTS complained of developing hives on contact with water.

### Reports of Cases

CASE 1.—A 27-year-old white woman had history since age nine or earlier of the development of small white papules surrounded by bright red rings whenever the skin remained in contact with water for more than five minutes. The lesions developed regardless of the temperature of the water and occurred on bathing, showering or swimming. They were not associated with heating of the body, exercise or emotional upset. There was no daily, weekly or seasonal variation or pattern of occurrence. Otherwise the patient was in excellent health and through the years had learned to minimize the problem. She avoided swimming and learned to bathe by showering rapidly and drying herself quickly. Longer showers were followed within 10 minutes by the development of pruritic lesions that persisted for a half hour to an hour. Even washing her face caused lesions unless she rapidly dried after washing. The lesions had occurred at one time or another on almost all parts of the body except the palms and soles, but mainly on the trunk. The patient said a brother had a similar hypersensitivity response, but the brother was not available for examination.

When physical examination was carried out no evidence of skin disease was observed. A number

of tests were done on separate skin areas known to have been affected previously. Application of tap water at room temperature for five minutes caused lesions of cholinergic urticaria type—a central white papule surrounded by a zone of erythema. The papules were 2 to 3 mm in diameter and the area of erythema 3 to 5 cm. Application of distilled water evoked the same reaction. Application of alcohol under an impervious dressing so as to prevent evaporation produced no response. Nor was there reaction to application of ice cubes in a thin plastic film so that the skin became quite cold but no moisture touched it. Application of a hot pack contained in a thin plastic film caused the skin to warm to the point of erythema, but no lesions appeared. Friction to the areas had no effect. No reaction on the skin of a normal person was noted when it was rubbed with a gauze pad that had first been soaked in distilled water and used to swab the skin of the patient. However, where the patient's skin remained wet after it was swabbed, urticarial lesions developed.

CASE 2.—The patient, a 24-year-old white woman, had first noted two years previously, during the sixth month of pregnancy, that hive-like lesions developed wherever her skin was in contact with water for longer than 30 minutes. Baths or showers for shorter periods did not cause the lesions, which were white papules surrounded by red rings. Such lesions were not produced by exercise, emotional upset or hot weather. The lesions occurred anywhere on the body except the palms and soles but were mainly on the trunk. Other members of the family did not have similar problems.

Application of tap water and distilled water for 30 minutes produced characteristic urticarial lesions of cholinergic type, but application for 5 or 15 minutes did not produce lesions. Application of heat, cold and alcohol (as described in Case 1) did not cause lesions.

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## Discussion

Shelley and Rawnsley<sup>1</sup> described the first three cases of "aquagenic urticaria" and suggested that water is the key exogenous factor in causing classical cholinergic urticaria in such cases. They postulated that a toxic substance is formed by water acting on sebum or the sebaceous gland. This toxic substance, they speculated, is absorbed, causes perifollicular mast cells to degranulate, releasing histamine and resulting in cholinergic urticaria.

It is well established that "foreign" substances that do not occur within the normally developing epidermis or in normal sebaceous secretions, sometimes do appear on the skin—for example, substances associated with bacterial action. The potential factor in the present cases and others like them may therefore be a product of bacterial breakdown. If this is the case, it most probably is a water-soluble substance, for water incited the lesions and alcohol did not.

Testing of many more cases will be required to determine whether all cholinergic urticaria is aquagenic urticaria or aquagenic urticaria is one specific type.

At present the best therapy is avoidance of unnecessary contact with water. Antihistamines by mouth give partial control.<sup>1</sup>

### REFERENCE

1. Shelley, W. B., and Rawnsley, H. M.: Aquagenic urticaria, contact sensitivity to water, *J.A.M.A.*, 189:895-898, 21 September 1964.

## Duodenal Ulcer with Massive Hemorrhage Complicating Pregnancy

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RARELY DO COMPLICATIONS of peptic ulcer occur during pregnancy. In the present case a massive hemorrhage from duodenal ulcer that occurred

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in the fifth month of pregnancy was successfully treated surgically.

## Report of a Case

A 30-year-old pregnant Caucasian woman was admitted to the Medical Service of the Los Angeles County General Hospital, Unit II, on 14 April 1966 at 5 a.m. because of hematemesis and melena that had occurred two hours earlier. This was her fourth pregnancy. In June 1963, during the sixth month of her second pregnancy, she was put in hospital for hematemesis, which responded readily to medical management. She also said she had had epigastric distress for the past nine years. To relieve this distress, she ingested approximately two quarts of milk daily together with numerous antacids. Heartburn and regurgitation had also been noted when lying down. Roentgenographic examination of the upper gastrointestinal tract in 1960 was said to have revealed deformity of the duodenal cap with delayed passage of barium and hypertrophic gastritis.

The patient took from eight to ten tablets of acetylsalicylic acid daily because of pain in the back. She had had bronchial asthma intermittently since the age of five and she took Tedral®\* for it. She also admitted to having been addicted to heroin.

Her last normal menstrual period was early in September 1965. The expected day of confinement was mid-June 1966. There had been no vaginal bleeding during this gestation and no symptoms to suggest toxemia. She had not had prenatal care.

The blood pressure at the time of admission was 140/80 mm of mercury, the pulse rate 130 beats per minute and the respiratory rate 20 per minute. The conjunctivae were pale. The breasts were enlarged with darkly pigmented areolae. The antero-posterior diameter of the chest was increased and the lung sounds were distant but clear. No abnormality was noted on cardiac examination. Minimal epigastric tenderness was noted. The height of the fundus was 2 cm above the umbilicus. No fetal heart tones were heard. Bowel sounds were hyperactive. There were old scars in both antecubital areas. On pelvic examination the cervix was closed and soft and the uterus was enlarged.

The initial hematocrit was 32 volumes per cent. Bright red blood was vomited several times shortly after admission and eight units of blood were administered in the first three hours. Because of re-

\*A mixture of theophylline, ephedrine and phenobarbital.