

## A CASE OF FOOD POISONING APPARENTLY DUE TO STAPHYLOCOCCUS\*

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On the evening of Wednesday, March 4, 1931, Sergeant X. Y. and his wife, living at Fort Amador in the Panama Canal Zone, were suddenly taken ill with violent vomiting and purging accompanied by great prostration. The family consisted of three—the father and mother and a child about 9 years old. The two adults, who had eaten gravy with the evening meal, developed severe symptoms in about three hours; the child, who did not eat gravy, showed no signs of illness.

The gravy had been prepared on Tuesday from the left-over portions of canned chicken that had been served for Sunday dinner. The can bore the brand of a reliable, well known and nationally advertised firm. The chicken eaten on Sunday had caused no symptoms of any sort. In making the gravy the bits of chicken meat and the broth or stock from the can were used. After preparation the gravy had been kept in the icebox until Wednesday evening, when it was warmed and eaten at about 6 P.M.

The gravy was brought to the laboratory on Thursday morning, March 5, in the bowl in which it had been served the evening before. It was perfectly normal in appearance and odor. Platings were made on plain agar, Endo medium and eosin-methylene-blue medium. No colonies suggesting those of the Salmonella group were found, but staphylococcus colonies were quite abundant on the plain agar. The general cultural characters of this staphylococcus were those of the common *Staphylococcus aureus* type.

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Owing to previous experiences by one of us<sup>1</sup> with staphylococcus food poisoning, it was thought possible that staphylococcus products might have caused the outbreak. Accordingly a transplant of the staphylococcus isolated (303 d) was used to prepare a broth filtrate in the manner described in an earlier article.<sup>1</sup>

The sterile filtrate from a 72-hour broth culture was prepared on March 12 and stored in the icebox; on April 8 at 11.30 A.M. two healthy young male volunteers were fed 5 cc. each, in a glass of milk. One of them vomited in two and one-half hours and had numerous bowel movements over a period of about six hours; at 4 P.M. his temperature was 97.4 and remained subnormal for about 8 hours. The other began vomiting 3 hours after taking the filtrate, and had three diarrheal bowel movements in the course of 24 hours; his temperature was 99.2 at 2.30 P.M. Both men made prompt and complete recoveries. Two other volunteers were similarly fed 5 cc. each, two days later (April 10 at 9.45 A.M.). One of them vomited three and a quarter hours after taking the filtrate and experienced violent purging all the afternoon. The other did not vomit and manifested no symptoms except two soft bowel movements. On May 17 two more volunteers were fed 5 cc. each, of the same filtrate. One of them reacted violently with vomiting, profuse watery stools containing some blood, dizziness, sweating, general aching pains, and fever followed by subnormal temperature. The symptoms appeared suddenly 3 hours after taking the filtrate. It is worth noting that the toxic substance was still potent after more than nine weeks in the icebox. The other volunteer showed no symptoms of any sort.

The close resemblance between the symptoms produced by swallowing small amounts of the staphylococcus filtrate and the symptoms in the two persons apparently poisoned by the gravy from which the staphylococcus was isolated lends support to the view that the products formed by the growth of the staphylococcus in the chicken gravy were the cause of the outbreak. The close correspondence in the incubation periods in all instances—about 3 hours—is a further point of similarity. The agreement with previously reported cases<sup>1,2</sup>

<sup>1</sup> Jordan, E. O.: *Jour. Amer. Med. Assoc.*, 1930, 94, 1648.

<sup>2</sup> Dack, G. M., Cary, W. E., Woolpert, O., and Wiggers, H.: *Jour. Prev. Med.*, 1930, 4, 167.

in which staphylococcus poisoning was the most plausible explanation is also striking.

#### SUMMARY

An outbreak of food poisoning from eating chicken gravy was apparently caused by the products of growth of a staphylococcus which in pure culture formed substances that, when swallowed by human volunteers, reproduced the typical picture of the original outbreak.