A NEW SALMONELLA TYPE: *SALMONELLA MIYAZAKI*

(9, 12:1, z 13:1, 7)

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Several cultures of a new *Salmonella* type were isolated from the members of a family who were affected with acute gastroenteritis. The family comprised seven members; parents, sons and daughters. All of them suddenly had a fever, diarrhea and vomiting during the period of 0 o'clock, A.M. to 7 o'clock P.M. on July 16, 1955. Their body temperatures were in the range of 37°C to 40°C; a temperature of higher than 39°C lasted for three days in three cases, and a temperature of 37°C to 39°C lasted for one to one and a half days in two cases, while the remaining two had no fever. All of the cases had watery diarrhea 2 to 15 times a day, six of them had vomiting, and five complained of tenesmus. In addition, headache, abdominal pain, chill, and malaise were common symptoms among them. The patients recovered from illness in 4 days at most, and there was no death.

It is most probable that this outbreak of gastroenteritis was due to food poisoning, but as far as our examinations were concerned, no causative food was identified.

Strains of the *Salmonella* type were isolated from the stools of 6 among the total 7 cases, while no positive cultures from bloods or vomits. Besides, attempts were made to isolate *salmonella* cultures from 5 rats (4 *rattus norvegicus norvegicus* and 1 *rattus rattus alexandrinus*), but resulted in failure.

Laboratory examinations of the Salmonella cultures.

The strain MZ-6 was employed as a representative in further bacteriological and serological studies. The culture had the following biochemical behavior: No fermentation of inositol, adonitol lactose, sucrose and salicin. No production of indole, no liquefaction of gelatin and no decomposition of urea. Rapid fermentation of glucose (with gas), mannitol, dulcitol, sorbitol, maltose, rhamnose, arabinose,

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xylose, and trehalose. Formation of H_2S . Positive reaction in Stern's glycerol fuchsin broth. Positive reaction in D-tartrate, L-tartrate, and sodium citrate after 1 day. The Voges-Proskauer reaction was negative, but the methyl red reaction positive.

Serologically the strain has the formula 9,12:1, z13:1, 7. Cross-absorption reactions showed that its O antigens are identical with those of *S. enteritidis* (Jena, 1891). The culture was not agglutinated in O 1 factor serum.

The H antigens of phase 1 are identical with the H antigens of *Salmonella napoli*, phase 1 or those of *Salmonella uganda*, phase 1. H serum against the culture MZ-6, absorbed doubly by *S. bredeney* (1, 4, 12, 27:1, v:1, 7) and *S. napoli* (1, 9, 12:1, z13:e, n, x) does not agglutinate the homologous culture any longer. Thus, it is evidenced that the culture has no other H antigen than those given above.

SUMMARY

A new microorganism with biochemical reactions typical for the *Salmonella* group is described, isolated from the feces of the members of a family suffering from acute gastroenteritis. The antigenic formula can be expressed as 9, 12:1, z13:1, 7. The name *Salmonella miyazaki* is suggested for this culture.

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