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A SUGGESTION FOR THE RAPID PRESUMPTIVE EXAMINATION OF FOODS SUSPECTED OF HAVING CAUSED STAPHYLOCOCCAL FOOD POISONING

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A major problem occurs in bacteriologic investigations of suspected staphylococcal food poisoning when the organisms are no longer viable at the time the food is examined in the laboratory (e.g., when there has been excessive delay in delivering the food to the laboratory). Another bacteriologic disadvantage is that most methods of examination require several days, particularly when animal inoculation experiments are made, and can be applied to only a small number of samples. Hence, a method which takes only an hour or so and does not require that the staphylococci be viable should be of distinct advantage in epidemiologic investigations. Moreover, if the test is sufficiently simple, a large number of samples can be examined with little effort.

Search of the literature shows (1) that when the coagulating power of food-poisoning staphylococci was reported, the reaction was positive in all but one instance—in fact, Dienst (1942) suggested that the method may prove valuable as an exclusion test; and (2) that, with rare exceptions, the organisms were present in the foods in large numbers, in relatively pure culture.

Although other pathogenic staphylococci also clot plasma, the presence of plasma-clotting staphylococci in a suspected food would certainly point suspicion to that food and would warrant further study of it. Since the test could be made in as short as an hour by the method to be described, this preliminary investigation would not seriously retard other bacteriologic investigations and might assist in the selection of foods for such studies.

Since the coagulating principle is present in cultures of staphylococci, it should be present in foods that have supported considerable growth of staphylococci, even though the organisms are no longer viable. Investigation of a small number of suspected foods in this laboratory confirms this. Therefore, the suggestion is offered that the coagulation reaction be applied directly to foods to be tested by emulsifying a loopful or more in 0.5 ml. of Bacto tryptose phosphate broth (which enhances the clotting power), adding 0.5 ml. of citrated or oxalated rabbit plasma or human citrated or oxalated *whole blood*, and incubating up to seven hours, examining hourly. This prolonged incubation is desirable to permit growth of pathogenic staphylococci in case the amount of coagulating principle should have been inadequate in the original food.

REFERENCE

DIENST, R. B., 1942. A study of recently isolated strains of staphylococci and their ability to coagulate human plasma. J. Lab. Clin. Med. 27, 663-665.