NOTES

THE COMPARATIVE VALUE OF HUMAN PLASMA AND HUMAN WHOLE BLOOD FOR TESTING THE COAGULATING POWER OF STAPHYLOCOCCI

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Because of the scarcity of rabbits many bacteriologists use human plasma for testing the coagulating power of staphylococci. However, it takes longer to clot than does rabbit plasma and the clots are less firm than are those of rabbit plasma.

It was found that human whole blood clotted more easily than did the corresponding plasma. A series of 78 cultures that clotted rabbit plasma were tested as follows. The 8-hour growths from Bacto proteose lactose agar were emulsified in Bacto tryptose phosphate broth (which enhanced the clotting power). An equal quantity of whole blood was added. Plasma from the same person's blood was used in a duplicate series of experiments. The tubes were shaken and placed in the incubator and inspected periodically.

The clots of whole blood appeared earlier (average 80 minutes) than did those of plasma (average 100 minutes). The whole-blood clots became firm while only one-fourth of the plasma clots were firm in 3 hours.

Two cultures clotted plasma but not whole blood and 5 cultures clotted whole blood but not plasma. It is suggested, therefore, that broth cultures or broth suspensions be tested with whole blood and that any cultures that fail to clot the blood within 2 hours be retested with plasma. After incubation both sets of tubes should be allowed to stand on the laboratory table 24 hours and then re-examined.

THE ISOLATION OF PATHOGENIC STAPHYLOCOCCI FROM FECES

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The presence of coliforms in feces makes it difficult to isolate pathogenic staphylococci from this source, where they are usually outnumbered.

Alkaline bromthymol blue agar (Chapman *et al.*, 1937, Chapman, Lieb and Curcio, 1938) is excellent for the isolation of pathogenic staphylococci but coliforms also grow well on this medium. However, when 0.10 ml. of 0.10 per cent potassium tellurite (prepared from an unheated 5.0 per cent solution that

has stood a few days) is spread over the surface of a plate of this medium and the inoculum then spread, very few organisms grow, except pathogenic staphylococci. Whenever the number of coliforms is low, colonies of pathogenic staphylococci may be readily detected without the tellurite. Therefore, it has been the custom in this laboratory to inoculate both a tellurite-treated and an untreated plate of bromthymol blue agar with 0.01 ml. of a heavy suspension of the fecal sample and to incubate for 44 hours.

Of 30 tellurite-treated cultures of fecal samples from chronic invalids, 3 gave an excessive growth of coliforms. Of the remaining 27, 6 showed colonies of staphylococci that coagulated plasma, the number ranging from 2,000,000 to 18,000,000 per 100 grams of dry feces. In every instance plasma-coagulating staphylococci were found also in the nasal or oral cavities in large number, suggesting upper respiratory tract infection as the origin of the fecal staphylococci.

The method should be useful particularly for testing the feces of persons suspected of having staphylococcic food poisoning and in staphylococcal diarrheas.

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