SERUM DIAGNOSIS IN CHOLERA.

mitted to the laboratory in 1893 by Professor Welch, of Johns Hopkins. This was brought up to a high degree of virulence by passing it through a series of guineapigs until intraperitoneal injection killed in ten hours, and subcutaneous injection in twenty hours.

From a tenth to half a loopful of sterilized suspensions of a twenty-hour growth in agar was injected beneath the skin or into the peritonæum of guineapigs, and was followed by prompt loss of weight. The larger doses usually produced promptly the characteristic blood reaction in the course of a few days, varying in intensity with the different animals.

The reaction was found well developed in one case within three days and a half after the dose. Here the animal died from a secondary infection. The dried blood, first examined two days after the animal's death, gave the reaction to perfection, extensive clumping taking place in the momentary interval between mixing the drop of dried-blood solution with the culture and bringing it under the microscope. Positive results were obtained in the cases of two other guinea-pigs inoculated on the same day. Check examinations of healthy animals and of these inoculated with very minute doses gave negative results.

From this it appears that the sending of samples of dried blood is likely to suffice for the serum test. We hope before long to receive samples of dried cholera blood sent us under conditions which will be such as to give the method a practical test.

The fact that Achard and Bensaude found the reaction present even as early as the first day (in non-fatal cases) should make it invaluable in the diagnosis of cholera.

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