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On the mechanism of pneumococcic immunity. (Preliminary note.)

By KAY J. KITAGAWA. (By invitation.)

[From the Department of Bacteriology and Immunity, Leland Stanford Jr. University.]

*Normal rabbits.*—First generation pneumococci injected intravenously into normal rabbits decrease in number in the circulating blood during the first thirty minutes. The pneumococcic count (plate method) at the end of thirty minutes is usually about 25 per cent. of the initial count. After thirty minutes the number either slowly increases or slowly decreases depending upon the dosage and virulence of the organism injected.

*Immune rabbits.*—First generation pneumococci injected intravenously into actively immunized rabbits generally disappear with great rapidity from the circulating blood. By the end of ten minutes the blood is usually sterile.

Little or no decrease in the pneumococcic count is observed in samples of blood isolated from the general circulation between ligatures placed about a blood vessel. Even at the end of an hour the count in the isolated blood sample may be nearly as great as the initial count at the time the ligatures were closed.

From this it is evident that the rapid disappearance of the pneumococci from the circulating blood of actively immunized rabbits is not due to a destruction of the pneumococci by the plasma or leucocytes, but to their mechanical removal or destruction by the fixed tissues through which the blood circulates.