

STAPHYLOCOCCUS AUREUS  
AND  
THE NEW-BORN CHILD

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## IX. SUMMARY.

"The reported epidemics of staphylococcal infection are the simpler ones, and there is great need for detailed analysis of the more complex situations, which seem also to be the commoner.

R.E.O. Williams, LONDON (1959).

This thesis is a bacteriological and clinical survey of infection due to *Staphylococcus aureus* as seen in a 95 bed maternity hospital and concerns 10,401 infants born between July 1st, 1956 and September 30th, 1960.

The survey was directly responsible for the introduction of various changes in the conduct of the hospital during the survey with a resultant reduction in the overall incidence of minor staphylococcal disease in the new-born from 41.0% to 5.1%. Staphylococcal skin disease was similarly reduced from 30.8% to 2.1%, and staphylococcal eye disease from 12.4% to 2.8%.

The three principal changes responsible for this reduction in incidence of minor staphylococcal disease in the new-born were restriction of routine nursing procedures shown to be unnecessary for the baby, the introduction of "rooming in", and a method of "dry washing" infants with hexachlorophene emulsion. All changes in the conduct of the maternity wing were introduced in stages which were accompanied by strict bacteriological control. This was followed by an assessment of the effect of the changes on the incidence of minor staphylococcal disease in the new-born, and on the "carrier rates" of infants, mothers and staff.

All infants were followed for six months after birth. 0.30% were readmitted to hospital as a direct result of staphylococcal disease. 0.077% died from staphylococcal disease. Both this morbidity and mortality is shown to bear a direct relationship to the frequency of minor staphylococcal disease in the new-born.

The incidence of breast abscess in 9,291 mothers was 1.16%. This incidence was also related to the frequency of minor staphylococcal disease in the new-born and was reduced from 2.5% in 1956 to 0.60% in 1960.

Antibiotic sensitivity and phage patterns of staphylococci isolated are used in the survey in studying the epidemiology of staphylococcal disease in the new-born.

Phage pattern 80/81 and the part it plays in staphylococcal infection in the new-born is discussed. Staphylococci of this phage pattern did not play a dominant role in staphylococcal infection in Baxter House - this is contrary to reports from elsewhere in Australia and overseas.

The virulence of the staphylococcus itself is shown to be less important than the circumstances of the infection.

Hexachlorophene emulsion is shown to play a definite part in the reduction of staphylococcal disease and infection in infants both in the maternity wing and in the first four weeks at home.

The complete survey emphasizes the great gaps in our knowledge of the actual modes of transmission of the staphylococcus, its means of attack and factors effecting the reactions of the host in defence.