

## ROLE OF BACTERIAL ADHERENCE IN BOVINE MAMMARY GLAND INFECTIONS

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The ability of a number of strains of species of bacteria to adhere to mammary epithelial cells were tested by a simple test specially devised for this purpose.

The species of bacteria tested were; *S. aureus*, *S. epidermidis*, *Micrococcus*, *Str. agalactiae*, *Str. dysgalactiae*; *Str. uberis*, *Str. faecalis*; *Str. bovis*, *Klebsiella* sp., *E. Coli*, *Pseudomonas aeruginosa*, *C. pyogenes* and *C. bovis*. Using the number of organisms of a particular strain of *S. aureus*, that adhered to a known quantity of mammary epithelial cells as a standard, the adherence of other species and strains of bacteria under similar conditions were compared.

The species of bacteria which are more frequently associated with mammary gland infections adhered in large numbers while those associated less frequently) adhered in small numbers. There was considerable variation in adherence among strains of the same species of organisms. From these studies it appeared that the ability of bacteria to adhere to the ductular epithelium was a prerequisite for it to be a successful parasite of the mammary gland and may therefore be considered an important stage in the pathogenesis of mastitis.

The scanning electron microscopy was used to examine adherence. Bacteria did not adhere to the cells with microvilli but adhered only to those without microvilli. *C. bovis* adhered epithelial cells elsewhere.

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