LANGERHANS CELLS IN ORAL DISEASES

LIBRARY DISSERTATION

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One of the fascinating and enigmatic group of cells of the epidermis and oral epithelium are the immigrant cells of neuroectodermal or mesenchymal origin - "The Langerhans Cells".

Langerhans cells were first identified by Paul Langerhans (1868). They are dendritic, non-keratinocyte inhabitants of a variety of epidermal and epithelial tissues. They have been identified in different squamous epithelia including oral mucosa (Schroeder & Theilade 1966, Waterhouse & Squier 1967, Hill 1977, Burkhardt et al 1979, Van Bens & James 1979 and Daniels 1984), uterine cervix (Younes, Robertson & Bencosome 1968), oesophagus (Al Yassin & Toner 1976), sheep rumen (Gemmell 1973) and murine vagina (Young, Newcomb & Hosking 1985).

Though Langerhans cells were discovered more than a century and a quarter ago, this cell was an enigma not only regarding its origin, but also its function. For many years these cells have been regarded as epidermal cells, artifacts, melanocytes or neural elements such as Schwann cells. (Lombardi T et.al., 1993). They are thought to be involved in reactions to antigenic challenge under both normal and pathological conditions and provide immunological surveillance by binding to antigens within the epithelial environment (Walsh L.J et.al., 1987). Langerhans cells express numerous cell surface antigens. The cell surface antigen expression by these cells is required to bind the antigen and present it to T lymphocytes (Walsh L.J et.al., 1990).

Many studies have demonstrated interesting aspects of Langerhans cells in various pathological conditions. It has been shown that there is variation in the number, distribution and expression of the surface antigens which either aid in clearance of the antigen or in the pathological phenomena. These variations have been observed in conditions like contact