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**THE ANTIFUNGAL EFFECT OF APO-LACTOFERRIN AND LYSOZYME ON
CANDIDA PARAPSILOSIS AND CANDIDA ALBICANS**

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Candida species are opportunistic pathogens cause diseases, especially in immunocompromised patients.

Lactoferrin, also known as lactotransferrin, is a member of the family of iron-binding proteins known as the transferrins. Lysozyme, together with lactoferrin, has been recognized as an important member of the host's innate defence mechanism. There are only a few investigations on the anticandidal activity of lysozyme against emerging *Candida* species.

Hence the aims of this investigation were first, to ascertain the anticandidal activity of both apo-lactoferrin and lysozyme against 24 *C. parapsilosis* and five *C. albicans* isolates and second, to evaluate the sensitivity of *C. parapsilosis* isolates to these two proteins with respect to the origin of the isolate.

A total of 24 *C. parapsilosis* isolates were used in the study. Of these 13 were from superficial infections and 11 were systemic. The five *C. albicans* isolates were from oral lesions of patients with denture stomatitis. Iron-free (apo) lactoferrin which was purified from human milk was used in the study. Hen-egg-white lysozyme was used for all the experiments. The fungicidal effect of apo-lactoferrin was determined by the method of Soukka *et al.* (1992). While the method of Iacono *et al.* (1980) was used to determine the effect of lysozyme. The results were analysed using non-parametric tests.

When evaluating the susceptibility data, a significant intra-species variation in susceptibility to apo-lactoferrin was observed for *C. parapsilosis*. An identical degree of susceptibility of superficial and systemic isolates of *C. parapsilosis* to apo-lactoferrin was observed. No significant difference was noticed when comparing the susceptibility data of *C. parapsilosis* and *C. albicans* isolates to apo-lactoferrin. There was a significant intra-species variation in susceptibility to lysozyme amongst the *C. parapsilosis* isolates. The mean $F_{1/2}$ value of the systemic isolates was almost identical to that of the superficial isolates. The *C. albicans* isolates demonstrated a significantly higher degree of susceptibility to lysozyme than *C. parapsilosis* isolates.

To conclude, the current study, for the first time, highlights the susceptibility of a large number of *C. parapsilosis* isolates to both apo-lactoferrin and lysozyme. A significant inter-species variation was not observed between *C. parapsilosis* and *C. albicans* in susceptibility to apo-lactoferrin as opposed to significant inter-species variation in susceptibility to lysozyme.