

عنوان مقاله:

Antifungal potential of tolnaftate against *Candida albicans* in the treatment of onychomycosis: development of nail lacquer and ex vivo characterization

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خلاصه مقاله:

Onychomycosis constitutes the most common fungal infection of nail affecting finger and toe nails as well. Antifungals found to be effective in the treatment of onychomycosis. However, transport of oral antifungal agents exhibits more toxicity and requires longer treatment period. Medicated nail lacquers proved to cause lesser toxicity and required shorter treatment period. It provides not only finger/toe nail infection therapy and but also act as a protection for nails. Thus, the objective behind the present investigation was to develop nail lacquer for transungual delivery of tolnaftate. Its potency had been assessed by evaluating penetration efficiency across the bovine hoof membrane. Preliminary studies aided the optimization of thioglycolic acid as permeation enhancer ($HEF_{max} = 0.60 \pm 0.377$) and menthol as local anaesthetic. n-butanol:isopropyl alcohol with optimum drying time of 60 sec was selected as optimum solvent system. In total nine formulations were developed based on 3^2 full factorial design and characterized for drying time, non-volatile content, in vitro adhesion and permeation study. Based on highest desirability, F6 was selected as an optimized formulation and evaluated for viscosity, stability and antifungal activity. Optimized formulation exhibited optimum viscosity and stability for 1 month period. Better antifungal activity was observed against *Candida albicans* in comparison to the control formulation. Thus, it can be concluded from the investigation that nail lacquer could proved .to be a better alternative for transungual delivery of tolnaftate

کلمات کلیدی:

Bovine hoof, *Candida albicans*, fungal infection, onychomycosis, penetration, transungual

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