



Mucoadhesive *In Situ* Gel Formulations of Miconazole Nitrate for the Treatment of Mucosal Candidiasis

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SUMMARY. This study focused on developing *in situ* gel formulations of miconazole nitrate with poloxamer 188 and 407 for treatment of mucosal candidiasis. *In situ* gel formulations were prepared and gelation temperature, rheological, mechanical and mucoadhesive properties, syringeability and release profiles were evaluated. Based on their suitable gelation temperature properties, formulations containing the poloxamer (Plx) 407 and 188 in ratios of 15:15 (F1), 15:20 (F2) and 20:10 (F3) were chosen for further studies. F3 exhibited typical gel-type mechanical spectra at 37 °C whereas F1 and F2 behaved like weakly cross-linked gels. Texture profile analysis demonstrated that F3 showed the highest cohesiveness, adhesiveness, hardness and compressibility. According to these results, F3 was chosen for *in vivo* studies and it was shown that it is effective for the treatment of the vaginal candidiasis. Histopathologic evaluation also supported the effectiveness of the formulation. As a result, *in situ* gel formulations prepared with Plx 407 and 188 mixture of miconazole nitrate proved to be a promising alternative dosage form for treatment of mucosal candidiasis.

KEY WORDS: Candidiasis, Miconazole nitrate, Poloxamer.

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