

Thesis Title	Development of Lidocaine Mucosal Adhesive Films		
Author	Miss Sineenart Rojanapanus		
M.S.	Pharmaceutical Technology		
Examining Committee	Associate Prof. Pimporn	Leelapornpisid	Chairman
	Assistant Prof. Dr. Sayam	Kaewvichit	Member
	Assistant Prof. Dr. Jakkapan	Sirithunyalug	Member

Abstract

The purpose of this study was to develop Lidocaine Hydrochloride mucoadhesive films for oral cavities. Three polymers, i.e. Polyox, Hydroxypropyl Methylcellulose, Polycarbophil and mixtures of them were used. 1% W/W Lidocaine Hydrochloride mucoadhesive films were prepared by dissolving or dispersing the drug and the polymers in various ratios of water and 95% alcohol, before casting and drying. The characteristics of the mucoadhesive films were studied in terms of variation of weight and thickness, content uniformity, *in vitro* effective adhesive time, stability of active ingredient at room temperature and 45 °C, and drug release profiles.

The results showed that every Lidocaine mucoadhesive formulation had a suitable weight variation, content uniformity and thickness for use in oral cavities. The effective adhesive times when tested with a simulated device were more than 6 hours. The amount of active ingredient of the films stored at room temperature and 45 °C for 6 months decreased not more than 8.77 and 16.40%, respectively. The release behaviors were similar for every formulation within 6 hours period of testing, i.e. an initial fast release phase followed by a slow release phase. Release rates of the two phases can be modified by adjusting the ratio of the polymers in a mixture. The results may be adapted for the using of other drugs in the mucoadhesive films.