ABSTRACT

Pengaruh Modifikasi EGCG terhadap Penetrasi EGCG dari Sediaan Ovula Berbasis κ-Karagenan dan *Hydroxypropyl Methylcellulose* K100M secara In Vivo

Alyajilan Madani Mamurrie

Epigallocatechin gallate (EGCG) is an anti-cervical cancer which has high solubility but low membrane permeability. This study to determine the effect of modified EGCG on penetration of ovule preparations based on a polymer combination of HPMC K100M and κ-carrageenan 1:1,5 towards unmodified EGCG. The results of the characteristic test showed that the organoleptic were solid with a pinkish white color. The weight variation did not deviate from column A (5%) and column B (10%). The pH of the EGCG and modified EGCG ovules were 4.245 ± 0.009 and 4.234 ± 0.062. The EGCG and modified EGCG ovules had a hardness of 48.80 ± 0.10 kg and 48.78 ± 0.04 kg. Swelling index test for EGCG and modified EGCG ovules were 294,658 ± 53,870 % and 136,575 ± 19,477 %. Disintegration of EGCG ovule takes 52.5 ± 8.2 minutes and 256.6 ± 51.6 minutes for modified EGCG ovule. Penetration test of the modified EGCG preparation with observation for 2&6 hours showed a stronger intensity than the EGCGovule preparation which indicated that EGCG could penetrate deeper and faster. The depth of penetration in the muscular layer that contain blood vessels not as expected local therapeutic target. It can be concluded that the modified EGCG ovule preparation in the polymer base combination of HPMC K100M and κ-carrageenan 1:1,5 increased penetration towards unmodified EGCG.

Keywords: EGCG, ovule, mucoadhesive, penetration