DIFFERENCES OF EPIDERMAL GROWTH FACTOR (EGF)
CONCENTRATION BETWEEN UNPRESERVED AND PRESERVED
AMNIOTIC MEMBRANE

Abstrak:

Previous studies have provided good evidence in supporting the strong opinion that amniotic membrane is good for medical treatment. This is due to growth factors contained in the above mentioned, amniotic membrane. Amniotic membrane can be used in the form of none preserved as well as preserved. Preservation processes including cryopreservation, however could reduce the viability of cells as well as the concentration of growth factors. This decrease will influence the function of amniotic membranes. The objective of this study is to measure the difference of EGF concentration in between fresh amniotic membranes and with preservation (cryopreservation) in 16 amniotic membranes. We divided each amniotic membrane into two parts. The first part was extracted in fresh forms and the second part underwent preservation (cryopreservation) with glycerol 50% and was stored at - 80°C during 1 month before extraction. Both parts of the membrane were extracted using ultrasonic disintegrator and concentration of EGF was measured from the obtained extract using ELISA method. Results showed that the average concentration of EGF in the fresh amniotic membrane was 122.76 ± 11.59 pg/g while the average concentration of EGF in the amniotic membrane underwent preservation (cryopreservation) was 99.34 ± 9.49 pg/g. Average degradation of EGF concentration due to preservation (cryopreservation) is 18.49% ± 10.20%. So, we conclude that EGF concentration in fresh amniotic membrane is significantly higher than the EGF concentration in amniotic membrane underwent preservation (cryopreservation) (p = 0.000). Degradation of EGF concentration due to preservation (cryopreservation) at 95% confidence interval is 12.33% to 24.66%.

Keyword:

Epidermal growth factor, amniotic membrane, preservation, cryopreservation, ultrasonic disintegrator

Daftar Pustaka:

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