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The Effect of Pomegranate Fruit Extract Standardized 40% Ellagic Acid Topically to the Collagen Density on Incision Wound in Albino Rat (Rattus norvegicus)

Pengaruh Pemberian Ekstrat Buah Delima Terstandar 40% Ellagic Acid Secara Topikal Terhadap Kepadatan Kolagen Luka Insisi pada Tikus Putih (Rattus norvegicus)

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Abstract

The purpose of this research was to determine the effect of ointment pomegranate fruit extract (PFE) standardized 40% ellagic to collagen density on incision wound in rat. Twenty five rats (Rattus norvegicus) with 60-90 day ages and 150-180grams average of body weight were divided into five group (P0, P1, P2, P3, and P4). P0 (control -) was not treated, P1 (control +) was treated with 10% povidone iodine, P2 was treated with PFE 40% ellagic 2,5%, P3 was treated with PFE 40% ellagic acid 5%, and P4 was treated with PFE 40% ellagic acid 7,5%. Treatment had been given directly on incision area topically for fourteen days. The data of histopatological appearance were analyzed with Kruskall-Wallis and continued with Mann-Whitney. Result showed there were significant (p<0,05) different between treatment group. Highest collagen density incision wound occurred in P4 significantly different with other group (p<0,05), giving PFE 40% ellagic acid 7,5% increasing collagen density into score 4-5. Based on the result that the average increasing of collagen density is on PFE 40% ellagic acid treatment, more high PFE 40% ellagic acid concentration more higher the compounds of flavonoid, saponin, alkaloid, tannin, anthocyandin that contains antibiotic, antiseptic, antioxidant. Ellagic acid when combined with other compositions of pomegranate also serves as a powerful antioxidants specifically anthocyanidin, is an antioxidants that can help improve blood vessels.

Keyword : pomegranate, wound, healing, collagen ,

Daftar Pustaka :