Comparison of the Effectiveness of Phosphorus 32 Application and 10 Mg/Cc Triamcinolone Acetonide Intralesional Injection on Keloid

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Abstract

Objective: To analyze the effectiveness of phosphorus 32 (^{32}P) application compared to 10 mg/cc triamcinolone acetonide (TA) intralesional injection in keloid.

Methods: A single blind (evaluator blind) randomized clinical trial on 52 keloids was conducted during the period of May – August 2014 in Tumor and Skin Surgery Clinic, Department of Dermatovenereology and Department of Nuclear Medicine and Molecular Imaging, Dr. Hasan Sadikin General Hospital Bandung.

Results: Lesions were divided into two groups with each group consisted of 26 lesions. Group A was treated with ^{32}P application whereas group B was treated with 10 mg/cc TA intralesional injection. Flattening of the lesion of more than 50% was higher in the group treated with ^{32}P application (76.9%) compared to the group that was treated with 10 mg/cc TA intralesional injection (57.7%) on the 8th week, but the difference was not statistically significant ($p>0.05$).

Conclusions: Based on the statistical analysis, the application of ^{32}P was as effective as the intralesional injection of 10 mg/cc TA for keloid lesions.

Keywords: Flattening, keloid, phosphorus 32, triamcinolone acetonide

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Introduction

Keloid is a skin disorder caused by an dermal collagen overgrowth , as a response of abnormal wound healing in a predisposed individuals.[1,2] These fibrous growths result from a connective tissue response to trauma, burns, surgery, or inflammation, and seems occasionally occur spontaneously.[3,4] Psychosocial problems often occur due to cosmetic issues and contracture as complications from keloid.[2]

Keloids may occur at any age, but tend to develop at the age of 10–30 years old.[3] The keloid incidence of between 4.5% and 16% has been reported in a predominately black and hispanic population with no difference found between man and woman.[3,4]

In general, the clinical manifestations of keloids include nodules or demarcated plaques with regular or irregular shape, pink, purple, or hyperpigmented with a shiny surface.[3] Keloids tend to occur in a high skin tension area, such as shoulder, sternum, mandible, arms, and upper back and may be painful, hyperesthetic, or pruritic.[3,4]

Keloids occur due to the imbalance between collagen production and degradation, resulting in excessive collagen deposition.[2] Fibroblast abnormal activities, increased growth factor level, decrease in the metalloproteinase level, decreased apoptotic activity, increased level of plasminogen activator inhibitor 1 (PAI-1), and tissue hypoxia are the pathogenesis of keloids. However, the exact mechanism of keloid still remains unclear.[3] It has been recently shown

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