ABSTRACT

Background: Keloid is a benign dermal fibrous hyperplasia. The histopathological features shows excessive fibroblasts and collagen fibers. Prevalence of keloid patient in dermatovenereology outpatient clinic of Dr. Soetomo Hospital Surabaya is 1.4% (in 2013), 1.6% (in 2014), and 1.5% (in 2015). The recurrence rate of keloid after triamcinolone injection reached 33% within 1 year. Continuous CO_2 laser followed by triamcinolone injection has better effectivity (recurrence rate=15.4%). The fractional CO_2 laser has a faster downtime than continuous mode, since the ablation is limited only at microscopic treatment zone. Fractional CO_2 laser-triamcinolone injection combination therapy combines the selective photothermolysis effects and the antimitotic effects.

Purpose: To know the effectivity of Fractional CO_2 laser-triamcinolone injection combination therapy in keloid patient.

Methods: This study is a clinical trial that comparing fractional CO_2 laser-intralesional triamcinolone combination therapy (treatment group) with intralesional triamcinolone acetonide monotherapy (control group) in keloid patients. Main parameters of this study are keloid height, fibroblast density, and collagen density.

Results: This study involved 26 keloid patients (13 control patients and 13 treatment patients). Significant decrease in keloid height and collagen density occurred in the control group (p=0.005, p=0,008) and treatment group (p=0.000, p=0,001), but the difference in the decrease in keloid height and collagen density between both groups was not significant (p=0,598, p=0,328, respectively). The decrease in fibroblasts density in the control group occurred significantly (p=0.016), but in the treatment group increased insignificantly (p=0.958). The increased fibroblasts density can be due to shrinkage of collagen, so fibroblasts give a denser appearence.

Conclusions: fractional CO_2 laser-triamcinolone injection combination therapy has not had a better effect than a triamcinolone injection monotherapy.

Key words: keloid, laser, CO_2, fractional, triamcinolone