

论文

早期生长反应蛋白-1在1064nm Nd:YAG激光非损伤嫩肤大鼠皮肤中的表达

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摘要:

目的 探讨早期生长反应蛋白(EGR-1)在1064nm Nd:YAG激光照射后大鼠皮肤中的表达水平及其与非损伤嫩肤的关系。方法 Q开关1064nm Nd:YAG激光照射背部脱毛的大鼠皮肤共4次,每次间隔2d。取照射后第14天和第30天的大鼠皮肤组织进行HE染色检测其真皮厚度,碱水解法测定羟脯氨酸含量。取照射后第1天和第7天皮肤组织采用免疫组化技术检测EGR-1的表达。结果 激光照射第14天和第30天的大鼠皮肤真皮厚度明显增加,胶原纤维束增粗、密集,皮肤羟脯氨酸含量增加,与对照相比较差异有统计学意义(P<0.05)。免疫组化结果显示,EGR-1在激光照射后第1天表达明显上调(P<0.01),激光照射后第7天表达与对照相比较差异无统计学意义(P>0.05)。结论 EGR-1表达上调与非损伤嫩肤治疗密切相关。

关键词: 早期生长反应蛋白; 激光; 胶原; 羟脯氨酸; 非损伤性嫩肤

Expression of early growth response protein-1 in rats' skin in non-ablative photo-rejuvenation using the 1064nm Nd:YAG laser

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Abstract:

Objective To study expression of early growth response protein-1(EGR-1) in rats' skin after 1064nm Nd:YAG laser treatment and its relationship with and non-ablative photo-rejuvenation. Methods The Q-switched 1064nm Nd:YAG laser was applied to irradiate rats' dorsal skins 4 times at intervals of 2 days after rats' dorsal fur molted. Rats' dorsal skin samples were taken to measure the thickness of the dermis and collagen bundles with HE staining and to measure the hydroxyproline content by the alkaline hydrolysis method on days 14 and 30 after irradiation. Rats' dorsal skin samples were taken to measure expression of EGR-1 by the immunohistochemical method on days 1 and 7 after irradiation. Results The dermis and collagen bundles were thicker and the content of hydroxyproline was higher in the experimental rats' skin than in the control group (P<0.05). The immunohistochemical result indicated that EGR-1 was upregulated in the skin on day 1 after irradiation(P<0.01). Expression of EGR-1 in the skin on day 7 after irradiation had no significant difference compared with the control group(P>0.05). Conclusion Up-regulated expression of EGR-1 is closely related to non-ablative photo-rejuvenation.

Keywords: Early growth response protein-1; Laser; Collagen; Hydroxyproline; Non-ablative photorejuvenation

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