

[1]任为,程红缨,孙慧勤.LED红光照射对放创复合伤小鼠创面愈合的影响[J].第三军医大学学报,2013,35(10):981-984.

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LED红光照射对放创复合伤小鼠创面愈合的影响(PDF)

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Title: Effect of LED red-light radiation on wound healing of combined radiation-trauma injury in a mouse model

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关键词: [放创复合伤](#); [创面愈合](#); [LED](#); [红光](#)

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摘要: 目的 研究LED红光照射对放创复合伤小鼠创面愈合的影响。 方法 C57BL/6小鼠分为单纯创伤组(单创组)、放创复合伤组(放创组)和放创复合伤红光照射组(放创红光照射组)。单创组于背部制一全层皮肤切除创面,放创组经⁶⁰Coγ射线5.0 Gy全身一次性均匀照射后在背部制等大创面,放创红光照射组相同制伤后予LED红光照射。伤后动态观察各组创面愈合情况以及小鼠一般情况、体质量、血常规的变化,同时观测红光照射时照射盒内温度变化。 结果 各组创面均愈合,放创复合伤红光照射组小鼠比放创复合伤组创面平均愈合时间缩短1~2 d ($P<0.05$),外周血白细胞计数25 d时比放创复合伤组高出43.41%,第28天时高出37.98% ($P<0.05$)。放创复合伤红光照射组体质量增长与放创复合伤组比较并无明显差别 ($P>0.05$)。 结论 放创复合伤创面愈合较单创延迟,LED红光照射对放创复合伤创面愈合具有促愈作用。

Abstract: Objective To investigate the effect of LED red-light radiation on promoting wound healing in mice with combined radiation-trauma injury. Methods C57BL/6 mice were randomly divided into a simple trauma group, a combined radiation-trauma injury group, and a combined radiation-trauma injury+LED red-light radiation group. Only a full-thickness skin defect wound was made on the back of mice in the simple trauma group. Before wound making, the mice in the

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combined radiation-trauma injury group underwent single-dose systematic radiation of $^{60}\text{Co}\gamma$ (5.0 Gy), while the mice in the combined radiation-trauma injury+LED red-light radiation group were subjected to LED red-light radiation after wound making. The following parameters were analyzed: wound healing, changes of general status, body mass and blood routine, as well as temperature change in the radiation capsule during LED red-light radiation. Results All the wounds healed. The mean wound healing time in the combined radiation-trauma injury+LED red-light radiation group was shorter than that in the combined radiation-trauma injury group (by 1-2 d; $P<0.05$), and the ratio of WBC in peripheral blood was higher (by 43.41% on day 25 and by 37.98% on day 28; $P<0.05$). No significant difference in body mass was observed between these two groups ($P>0.05$). Conclusion Wound healing of combined radiation-trauma injury is delayed as compared with that of simple trauma, while LED red-light radiation can promote the process.

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