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Wound – Caesarean incision healing

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Low level laser irradiation in Cesarean wound healing in normal healthy women: a single-blinded placebo controlled study.

Mokmeli S.

Tehran, Iran.

Wound healing acceleration in women underwent Cesarean surgery could help them to return to their normal functioning, especially to begin breastfeeding their newborns as one of the most important aspects of newborns care. Low level lasers have been introduced as one of treatment modalities for non-healing wounds; and several indications have been described for their use in wound healing processes. However, the effect in a healthy individual is limited and the prime indication for laser therapy in wound healing is for individuals or tissues with a compromised state. The aim of this study is to evaluate the effects of low level laser irradiation on inflammatory response of healing tissue in normal healthy subjects underwent Cesarean surgery.

10 healthy women underwent Cesarean operation (Pfanschtil section) and 7 age matched controls ($p = 0.092$) enrolled to the study. All cases and controls have no systemic or dermatological illness, and are generally well. Cesarean wound of cases irradiated with infrared diode laser (980 nm; power:) every other day, in addition to routine dry dressing; and control group took sham laser as placebo rather than true laser. On day 10 of wound healing, after removing the stitches, one tissue sample was taken from each subject's wound margin for histological evaluation.

There was statistically significant difference in mean values of lymphocyte count and counted lumen of vessels per high power field (/HPF) between two groups (Fischer's exact test, $p = 0.035$ and 0.005 , respectively). However, mean values for red blood cell (RBC), polymorphonuclear (PMN), large fibroblast and small fibroblast count per HPF were not significantly different in two groups (Fischer's exact test, $p = 0.102$, 0.0303 , 0.0862 and 0.065 , respectively).

Low level laser irradiation can be effective in promoting the healing wound stage, and then accelerating the Cesarean coetaneous wound healing in normal healthy women. However, larger controlled trials are suggested to more evaluate this aspect of lasers use in wound healing process in normal healthy people.