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Translating repair into regeneration in wounds with PRP

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It has never been possible to revive a dead/dying tissue in wounds including skin, muscles, tendons and bones. Rather they have always been considered as threat towards conducive environment for wound healing specially towards infection. Hence during managements they are urgently excised, to enhance wound repairs. The recent advances in the regenerative medicine open a window of opportunity to translate the wound management. The author has developed a platelet rich plasma LED "STARS therapy" for management of wounds. With this management, it has been possible to revive these tissues from gross gangrenous/pre-gangrenous conditions, with minimum of further losses. A total of 162 wounds have been treated by STARS therapy. Out of these, 51 wounds had a dead/dying tissue including skin flaps, tendons, muscles, and bones. These were grossly identified by their clinical appearance such as sloughing, necrosis and blackening. These wounds are included in the study and results of such wounds towards tissue regeneration are studied. A few of them (randomly selected) also underwent histopathological examination at different stages of wound healing. The results are clinically evaluated in terms of four progressive stages: arrest of further necrosis and infections; appearance of regeneration (pink/red speckles in the tissue); absorption/spontaneous removal of blackened tissue and complete repair of wound. The neo-angiogenesis induced by PRP through its different growth factors have helped towards tissue regeneration and complete wound repairs. In this clinical study, we demonstrate the efficacy of such PRP LED treatment in wound care. The STARS therapy as developed and applied for wound healing has immense potentials to be a game changer for wound management and tissue regeneration. It is easily reproducible, safe and cost effective. This outcome could be the regenerative medicine's finest application to a large clinical health care problem. This is perhaps the most awaited and turning point in history of wound healing, from era of local applications, drugs and devices to exciting era of regeneration.

Biography

Sandeep Shrivastava is an Orthopaedic Surgeon. He has completed his MS, DNB and PhD from India. He is currently Dean of J N Medical College, Datta Meghe Institute of Medical Sciences. He is then Chairman to Limb Reconstruction and Deformity Clinic and Wound Care Clinic. He has 56 publications, gave 64 international lectures across the globe and 2 orations. He has 6 copyrights and is Developer of STARS therapy. He is in Editorial Board of Journal of DMIMSU, *J Journal of Orthopaedics and Allied Sciences, IJ RJSMS and NJMR*.

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