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Stem cells and repair of necrosis after dermolipectomy: An interesting case

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Fortunately, skin ulcers secondary to necrosis post dermolipectomy occur infrequently. Despite their rarity and because of their complex pathophysiologic nature their resolution is very challenging for a plastic surgeon.

This study is to recognize the security and efficiency of the utilization of CD34 stem cells (SC) that were obtained from the bone marrow within a solid autologous fibrin scaffold in a case of an ulcer with torpid evolution as a result of an abdominal dermolipectomy. This concept is to regenerate the affected tissue and to induce and promote the formation of granulation tissue that is compact enough to stimulate repair by secondary intent or in its own defect facilitating surgical closure.

We applied a technique under specific protocols to obtain the stem cells and used a healing technique in two ambulatory sessions through the application of CD34+ stem cells without any surgical intervention. There were no complications or concomitant infections and the recovery was completed within five weeks via secondary intention healing achieving a significant and satisfactory impact and response to the patient along with alleviating her physical and emotional struggle.

In this way we value the security and efficacy of this technique in the closure of wounds of soft, slow and unpredictable healing tissue. It is necessary to carry out investigation with a greater number of patients to incorporate this intervention in difficult cases.

Recent Publications

1. Hernández-Patiño, I., Rossani, G., Borobio, E., Talavera, E., Quiñones, MP, Rozas LL., R., Roque, JC, Jara, M., & De la Cruz-Vargas, JA (2021). Repairing effect of autologous serum in corneal lesions caused by chemical agents. Randomized double-blind preclinical trial in rabbits. Journal of Veterinary Research of Peru, 32 (6), e20425.

2. R. Niri et al., "Multi-View Data Augmentation to Improve Wound Segmentation on 3D Surface Model by Deep Learning," in IEEE Access, vol. 9, pp. 157628-157638, 2021.

Biography

Iván Hernández, Plastic surgeon recognized as scientist by CONCYTEC. He studied tissue engineering at the Wake Forest Institute of Regenerative Medicine in North Carolina in the USA. Associate Professor, undergraduate and postgraduate, at facultad de medicina. Universidad Ricardo Palma, Lima, Perú. Teacher and researcher at Instituto de investigaciones en ciencias biomédicas. Universidad Ricardo Palma, Lima, Perú. Responsible of the tissue engineering and cell therapy laboratory. Universidad Ricardo Palma, en Lima, Perú. Medical director of the Centro Camelias of plastic surgery and regenerative medicine for 20 years in Lima Peru. He has written more than 50 scientific articles related to the subject, as well as two books and chapters

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