

REGRAS DE SUBMISSÃO - RELATO DE CASO DE GRANDE RELEVÂNCIA
CIENTÍFICA / CASE REPORT OF GREAT SCIENTIFIC RELEVANCE

**FAT GRAFTING ASSOCIATED WITH NEGATIVE PRESSURE WOUND
THERAPY : FIVE YEARS OF FOLLOW UP TREATING COMPLEX WOUNDS
IN THE INFERIOR LIMB**

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Introduction: The treatment of wounds has always been a major issue in medical practice. It has also represented one of the most antique challenges in the history of medicine. Big loss of tissue, severe burns, trauma and infections can result in acute and chronic wounds with high complexity and difficult healing.

Objective: The objective is to describe a case series of different complex wounds in the inferior limb treated with the association of fat grafting and negative pressure wound treatment.

Method: Different kinds of complex wounds in the inferior limbs were treated with fat grafting (FG) on the wound bed and wound borders, associated with negative pressure wound therapy (NPWT). Fat was collected from a donor site with a 4mm cannula ("macro" granulated fat). After debridement of the wound bed to remove necrosis and devitalized tissue. The construction of "fat pouch" for fat grafting over the wound, is followed by the instalation of NPWT over the fat pouch. The NPWT is maintained, in average, for one week. During dressing

removal after one week, another session of FG and NPWT or another session of NPWT, alone, is performed. Once granulation tissue is obtained, skin grafting was performed.

Results: Since 2019, 40 patients, from 8 years of age to 83 years of age were treated using this method. All the 40 cases healed completely. The average time of treatment took 30 days, with two sessions of fat grafting and three sessions of NPWT. The described method of the association of FG and NPWT was capable to heal difficult and complex wounds, where flaps were lost or weren't available. Among all cases, exposed bone, exposed metal plate, exposed tendon, exposed articular cartilage were treated by this method. A very low morbidity in the patients was noticed with this method.

Discussion: As expected, the neovascularization and antiinflammatory stimuli of fat graft and of NPWT were observed. The antifibrotic effect of fat graft was also observed. But covering metal plate was completely unexpected. Covering entire tendons and reconstruction entire parts of the inferior limbs were also unseen clinical signs of fat grafting, so far. Very favorable results were noticed. The roll of autologous FG, in natura, in the treatment of complex wound is a very recent field in the literature, with good results. The combination of NPWT associated with FG showed result, that would never been obtained by NPWT alone. An evolution on the concept of FG, in natura, as a true biological autologous matrix was observed and represented a paradigm breaking point in the treatment of complex wound of the inferior limbs.

Conclusion: After five years of follow up of the combination of FG and NPWT in the treatment of complex wound in the inferior limb, very good and promising results were registered with complete healing.

Palavras-chave: fat grafting; inferior limb; complex wounds; negative pressure wound treatment.