USE OF AUTOLOGOUS PLATELET RICH PLASMA (A-PRP®) AND HYALURONIC ACID ON EXPOSED TENDONS OF THE FOOT AND ANKLE

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Traumatic injuries of the foot and ankle are often associated with significant skin loss, resulting in the exposure of tendons, bone or implants. These injuries are similar to the chronic foot ulcers associated with ischemic diseases. Rapid formation of granulation tissue and blood vessels is essential for the healing of these complex wounds.

Autologous Platelet rich plasma (A-PRP), which favors the cell proliferation and differentiation, can be used as an autologous scaffold for cellular growth to promote tissue regeneration.

Experimental Design: A total number of 30 patients (age ranging: 20-80 years) with tendon exposure and loss of substance of the foot/ankle were treated with PRP and Hyaluronic acid (HA, which can act as a temporary dermal substitute).

Treatment: for the treatment of patients the A-PRP was prepared through RegenKit® and injected intralesionally, intratendonally or perilesionally, or mixed with Autologous Thrombin Serum (ATS) at a 9:1 ratio to form a platelet gel, which can be used topically. The wounds were covered with a three-dimensional polymerized HA-medicated biological dressing. HA can be left in place for 15-20 days.

Results: To assess the status of wounds in terms of their openness, the following scoring system was used at 15, 21 and 30 days following intervention:
- 0: closed wound.
- 1: skin or soft tissue defect.
- 2: bone, tendon, implant exposure (any one).
- 3: bone, tendon, implant exposure (any combination of two or more).
- 4: associated or residual infection.

The mean score monitored were as follows:
- After 15 days: 3 (bone, tendon, implant exposure).
- After 21 days: 1 (skin or soft tissue defect).
- After 30 days: 0 (closed wound).

Only two patients had wounds that remained open after 30 days.

Discussion: This evaluation proved that A-PRP and HA facilitated rapid formation of granulation tissue, healing time were shortened and the need for additional soft tissue reconstructive surgery was reduced.

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