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## The synergy of different negative pressure wound therapy fillers combined with surgery to treat Fournier's gangrene disease

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**F**ournier's gangrene (FG) is a soft tissue acute necrotizing bacterial infection of perineal and male genitalia, rapidly progressive, with a mortality rate between 10-83%. We present a case of diabetic and overweight 65 year male with FG involving the left side of scrotum, perineum, lower abdominal wall, inguinal region and left hip.

Due to the septic status at the arrival, the patient has been undergone to several massive surgical debridement removing necrotic tissue and protective colostomy, then supportive therapies and systemic antibiotic therapy were administered.

A left side abdominal wound and the perineal one, with the testis exposed, were still open. We applied on these latter ones the a negative pressure wound therapy (NPWT) with continuous wound cleaning (30 minutes every 4 hours) with polyhexamethylene biguanide (PHMB) solution for 15 days. Due to the wounds improvement, a NPWT dressing at -175mmHg with poliurethan foam filler was applied above a layer of gauze

with PHMB on abdominal and perineal wounds and with a polyalcoholic foam filler with low adhesivity to cover the testis. As wound bed preparation, the wound dressing was changed twice a week for 8 week. The perineal and scrotal wounds were then sutured and dressed with incisional NPWT, together with NPWT above abdominal wound, in order to remove excess exudate and promote the suture edges healing. The abdominal wound was covered using an autologous dermal-epidermal graft in addition to NPWT with polyalcoholic filler foam to ensure the engraftment process. After 90 days, the patient healed and was discharged. The multimodality and synergic approach by massive debridement, the NPWT with different fillers depending on the wound needs and anatomic region, the supportive therapy, together with the systemic antibiotic therapy and the nutritional implementation have saved the patient life with minimal discomfort and acceptable aesthetic outcomes.

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