VIDEO VIGNETTE

Autologous Platelet-Rich Stroma in Complex Perianal Fistulas

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Regardless of surgical technique, success rates of reconstructive surgery in patients with complex perianal fistulas are limited, and fistula often reoccur.[1] One of the theories on failure is the presence of persistent chronic inflammation in the fistula tract residue, decreasing the impact of factors promoting tissue repair.[2] Consequently, suppletion of these factors could increase the success rate.

Recent efforts to improve postoperative healing focus on the enhancement of the regenerative potency of wound tissues. Stromal vascular fraction (SVF) produces growth factors promoting mitosis and enhancing the regenerative capacity of the cells, promoting wound healing.[3] Platelet-rich plasma (PRP) contains a high concentration of platelets, which excrete growth factors such as platelet derived growth factor.[3] From a wound healing perspective, SVF is potent because the extracellular matrix can increase tissue regeneration and augment reperfusion attributed to present microvasculature. In combination with PRP, it forms platelet-rich stroma (PRS). So far, only the use of either allogeneic PRP or enzymatically prepared SVF for the enhancement of healing in perianal fistulas is described.[4,5]

However, in normal homeostasis, PRP and SVF are inextricably linked, explaining the limited impact described so far. Moreover, only allogeneic products are used with their procedural and immunologic disadvantages. In this video, we describe the combined perioperative mechanical capture and use of both autologous PRP and autologous SVF in a patient who underwent a transanal mucosal advancement flap repair for a complex transsphincteric perianal fistula. First, lipoaspirate was harvested and centrifuged to isolate dehydrated adipose tissue. This dehydrated adipose tissue was subsequently fractionated and centrifuged again to obtain autologous SVF. Concomitantly, autologous PRP was obtained through centrifugation of a venous blood sample. Autologous PRS was created by merging autologous PRP and SVF. PRS was injected along the fistula tract before suturing of the advancement plasty. This video illustrates the technical aspect of successful conduction of this operation. See **Video** at http://links.lww.com/DCR/B85.

KEY WORDS: Colorectal surgery; Growth factors; Perianal fistula; Platelet-rich stroma; Stromal vascular fraction; Transanal mucosal advancement flap plasty.

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Funding/Support: None reported.

Financial Disclosure: None reported.

Presented at the meeting of the European Society of Coloproctology, Nice, France, September 26 to 28, 2018, and the abstract from that presentation was published.[6]

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Dis Colon Rectum 2020; 63: 860–861
DOI: 10.1097/DCR.0000000000001546

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