

Non-Activated Autologous Platelet-Rich Plasma for the Prevention of Inguinal Wound-Related Complications After Endovascular Repair of Abdominal Aortic Aneurysms

Nikolaos Saratzis, MD; Athanasios Saratzis, MD; Nikolaos Melas, MD; Dimitrios Kiskinis, MD

First Department of Surgery, Aristotle University of Thessaloniki, Papageorgiou General Hospital, Thessaloniki, Greece

Abstract: The endovascular repair (EVAR) of abdominal aortic aneurysms (AAAs) usually involves the surgical exposure and catheterization of the femoral arteries. Several inguinal surgical wound-related complications have been reported postoperatively. The aim of this report was to evaluate the safety and efficacy of intraoperative application of autologous platelet-rich plasma (PRP) for the prevention of wound-related complications in AAA EVAR. The authors conducted a patient- and assessor-blinded controlled trial involving 100 subjects undergoing EVAR of an AAA. PRP was produced using an autologous platelet separator and was applied, without prior thrombin activation, in 50 patients eligible for inclusion. The results were compared with a control group of 50 patients who underwent AAA EVAR within the same time period. The primary outcome was the difference in postoperative hospital stay. Secondary outcomes included subjective assessment of wound healing and

wound-related complications. Age, sex, and other comorbidities related to wound healing were not significantly different between cases and controls. One patient treated with PRP developed a unilateral wound infection with lymphorrhea, and two patients developed a bi-lateral superficial infection. Twelve patients within the control group developed a wound-related complication. The postoperative hospitalization was significantly lower in the PRP group. The overall surgical wound-related complications rate was also significantly lower in the PRP group. Application of non-thrombin-activated PRP seems to prevent major postoperative wound-related complications ($p = .026$) and shorten postoperative hospital stay duration after femoral artery exposure and catheterization for AAA EVAR (mean, 4.48 ± 0.48 vs. 6.14 ± 0.39 days). **Keywords:** platelet-rich plasma, endovascular, abdominal aortic aneurysm, wound-related complications. *JECT. 2008;40:52-56*
