

Clinical impact and biomaterial evaluation of autologous platelet gel in cardiac surgery

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We compared the clinical efficacy of autologous platelet gel (APG) and gelatine (CONT), including biomaterial evaluation. In a prospective, randomized, controlled trial, 64 patients undergoing complex coronary artery bypass graft (CABG) surgery and/or aortic surgery, in whom the surgeon was able to identify a bleeding site for which conventional means to stop bleeding were impractical or proved unsuccessful, were enrolled. Aortic punch biopsy from each patient was harvested in explant cell (EC) culture media. Hemostasis success for the “oozing” category was 89% in APG and 60% in CONT ($p < 0.05$). For the “heavy bleeding” category, the success rates

were 92% in APG and 45% in CONT ($p < 0.01$). Contact of gelatine inhibited EC proliferation and APG increased cell cycling and EC quantity. Phagocytic capacity (PC) was significantly higher in the APG group ($p < 0.001$). APG was significantly better than CONT with respect to hemostatic success rate, effects on wound healing and increased resistance to infection (PC). *Perfusion* (2008) 00, 1–8.

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