

“Novel Ultrafiltration Technique for Blood Conservation in Cardiac Operations”



Study Design

- A prospective, randomised trial to compare the Hemosep cell saver’s performance against conventional treatment without using the Haemoconcentrator
- A total of 102 Patients undergoing Cardiac surgery on Cardio Pulmonary Bypass (CPB) were randomised into a Hemosep group or Control group in a Hospital in Turkey
- Efficacy of Hemosep was confirmed by taking samples at 15 minutes and 40 minutes
- Samples taken to assess Hematologic and Inflammatory parameters:
 - Standard Blood Chemistry especially Albumin fraction
 - Serum IL-6 Levels
 - Haemolysis by determination of Free Plasma Haemoglobin



Key Results

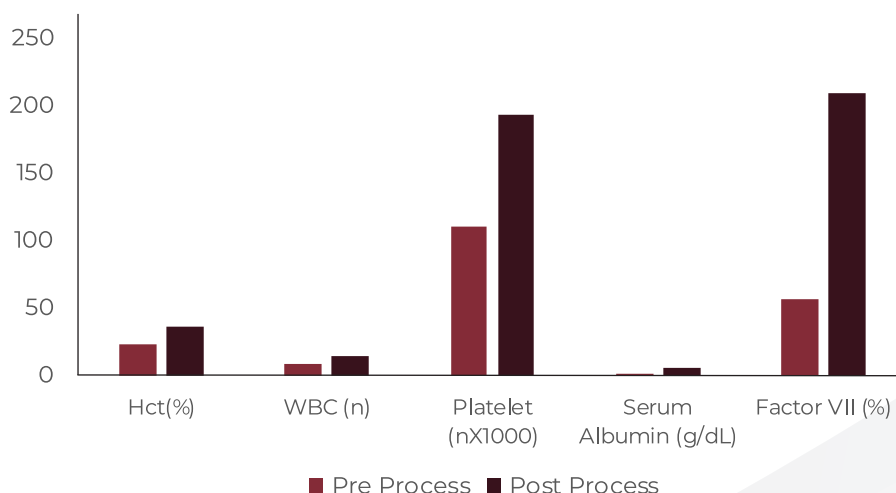
- Serum Fibrinogen was increased significantly from 195 g/dL to 425 g/dL
- Reduction in IL-6 values from 210 pg/dL to 75 pg/dL
- No difference in Plasma Free Haemoglobin, Activated Clotting Time (ACT) or Partial Thromboplastin Time (PTT) were demonstrated



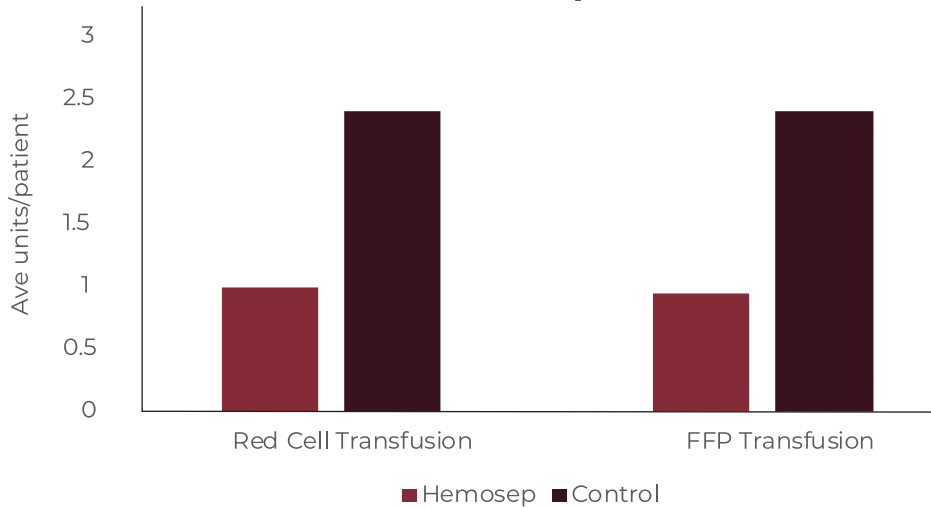
Overall

- The study showed that Hemosep was associated with lower post-operative allogeneic transfusion
- In the Hemosep group, only 26% of patients required a transfusion versus 63% in the control group
- The resultant blood in the Hemosep group was superior in terms of salvaged blood and all active cell species studied

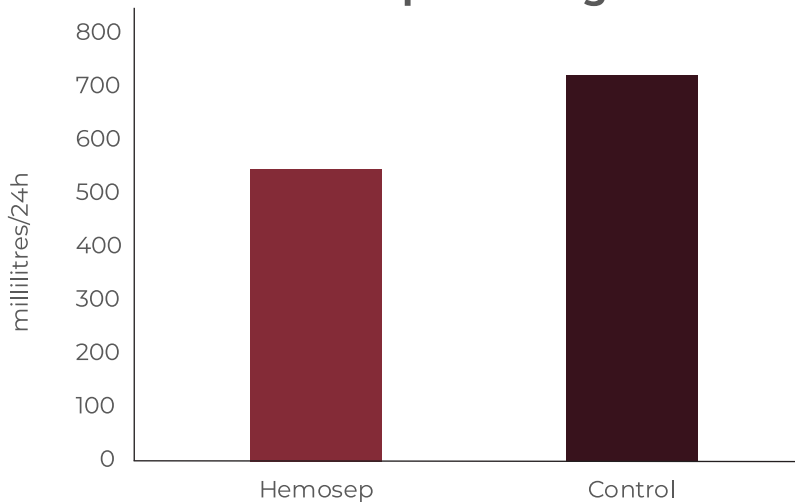
Pre and Post Process Blood Values



Transfusion Requirements



Post Op Bleeding



Conclusion

- The Hemosep device functions as designed and without technical failures
- The resultant blood product was superior to that of salvaged blood in terms of all active cell species, suggesting some possible clinical advantage in its deployment



Study Citation

Gunaydin S, Gourlay T Novel Ultrafiltration Technique for Blood Conservation in Cardiac Operations. Ann Thoracic Surgery 2013;95:2148-51

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