

## **Comparison of Acute Normovolemic Hemodilution Effect on the Amount of Bleeding in the First 48 Hours after Coronary Artery Bypass Grafting**

Abstract

**Background and Objectives:** Cardiovascular disease is one of the most common causes of mortality in developed countries, as well as in the whole world. In this regard, autologous transfusion is a topic that can be useful and valuable, especially in complex surgery such as heart surgery and organ transplantation. One of its variants is ANH. Therefore, the aim of this study was to compare the effect of Acute Normovolemic Hemodilution on the amount of bleeding in the first 48 hours after coronary artery bypass grafting.

**Methods:** In this clinical trial, 100 patients were selected from all heart patients referred to Imam Khomeini Hospital in Ardebil for CABG surgery in the years 2016-17. They were selected by simple random sampling as a statistical sample and They were divided into intervention (50 ANH recipients people) and control groups (50 without ANH people) .

**Results:** Based on the findings, in the ANH recipients group, the mean of bleeding volume was  $59.1 \pm 7.3$  ml in the first day and  $55.6 \pm 4.2$  ml in the control group and the difference between the two groups was not significant on the first day. The mean of bleeding volume on the second day was  $46.1 \pm 2.8$  ml in the ANH group and  $42.7 \pm 2.9$  ml in the control group. Although it was somewhat higher, it was not statistically significant. Of all samples 45% were female and 55% were male. The most common type of blood group was 33 (33%) in the blood group O. The highest age group (61%) was over the 60 years old. The pump time varied with an average of  $122.2 \pm 21.5$  minutes. The lowest value was PT 11 and the highest was 15 with an average of  $13.02 \pm 0.9$  seconds. The mean of PTT was  $32.5 \pm 2.6$  seconds and the mean INR was  $1.1 \pm 1.0$ . The average Plt was  $251170 \pm 64124$ . The mean ACT was  $596 / 6 \pm 183 / 7$  seconds.

**Conclusion:** The results showed that in the mean of bleeding volume between the intervention and control groups ( $P = 0.41$ ), bleeding volume by age ( $P = 0.3$ ), bleeding volume by gender ( $P = 0.54$ ) and bleeding volume by blood group ( $P = 0.48$ ) was not significant difference . Based on these results, it is suggested that more studies be done on the more number of samples.

**Key words:** Acute Normovolemic Hemodilution, bleeding, Coronary Artery Bypass Grafting