



*

(Acute Normovolemic A.N.H

CABG

Hemodilution)

(C.P.B)

()

CABG

:

O₂ Saturation PTT PT

Hb

% / :

% /

CABG

CABG

(PT,PTT,INR)

O₂ Saturation

CABG

ICU

A.N.H :

() *

CPB

:

:

A.N.H
 CABG
 C.P.B CABG
 (Cardio pulmonary Bypass)
 (Autologous Transfusion)
 A.N.H
 CABG
 Hb
 O₂ saturation PTT PT
 C HIV
 SPSS
 (IHD)
 (Coronary Artery Bypass
 Graft) CABG
 PT CBC
 INR PTT
 O₂ Saturation ICU
 INR PTT,PT
 () CABG
 FFP Pack Cell

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>	/	/ /	/ gr/dl	Hb
>			<	PLT
	>	/	<	PT
-	>			PTT
-	>	/		INR
	>%	% %	<%	O ₂ Saturation

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CABG

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PTT

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CABG

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PT

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PT

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CABG

PTT

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CABG

PT

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INR

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CABG

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ICU

CABG

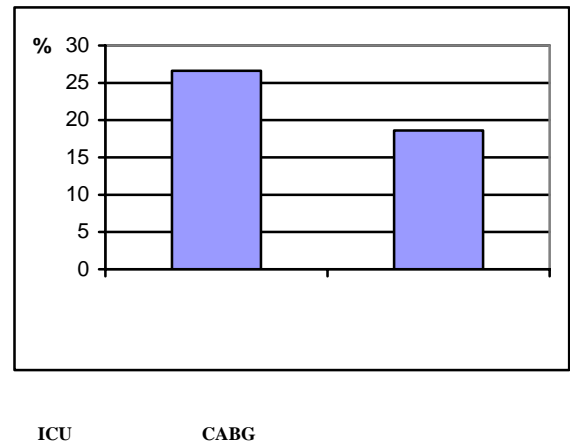
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CABG

INR

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PTT



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ICU

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IHD

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Oxygen delivery	Oxygen content	()% /
[]	A.N.H	()% /
		PT
		INR
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		()% /
		PT
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		PT,)
		(PTT, INR
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CABG		% /
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A.N.H		% /
CABG		(% %)
	CPB	
		[]
		Bold

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Chest tube

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) Chest tube

(CABG

1. Jeffry S, Dzieczkowski, Kenneth C. Transfusion biology and therapy. In: Fauci, Braunwald. Wilson. Harrisons principles of internal medicine. 15th ed. Grow Hill, USA: 2001; 718-24.
3. Aghadavoudi O, Bagheri K, Fatah N, Effects of acute normovolemic hemodilution on homeostasis and hematologic parametrs in cardiac Surgery. Seventh Iranian Congress of Anesthesia and Critical care; Shiraz: 2002.
4. Kasper SM, Gerlich W, Buzello W. Preoperative red cell production in patients undergoing weekly autologous blood donation Transfusion. 1997; 37:1058.
6. Oishi CS, D Lima DD, Morris BA. Hemodilution with other blood transfusions techniques in total hip arthroplasty. Clin Orthop, 1997; 339:132-134.
7. Ruel MA, Rubens FD. Nor-pharmacological strategies for blood conservation in cardiacy. Can J Anesth, 2001; 48: 513- 523.
8. J Bolde, B Zickmann. Influence of blood replacement with different HES- solutions on microcirulatory blood flow in cardiac surgery. Acta Anaesthesiol Scand,1994; 38: 432-438.
9. Dietrich W. Shed mrdiastinal blood retransfusion should be used routinely in cardiac surgery. J Cardiothirac Vnesth, 1995; 9:95.
10. Stehling L, Zauder HL, Preoperative hemodilution. Pro Transfusion, 1994; 95-96.
11. Bennell SR. Preoprative autogous blood transfusion in elective total hip prosthesis operations. Ann R Coll Surg Eng, 1994; 76: 95-96.
12. Schonberger JPAM, Bredee JJ, Tjian D. Intraoperative predonation contributes to blood saving. Ann Thorac Surg, 1993; 56: 893-897.
13. Perty AF, Jost T, Sievers H. Reduction of homologous blood requirements by blood-pooling at the onset of cardiopulmonary bypass. J Thorac Cardiovasc Surg, 1994; 107:1210-1213.
14. Canver CC, Kronke GM. The effects of intraoperative blood sequestration on the need for allogenic Transfusion in coronary bypass operation. 1996; 25(3): 945-947

The effect of autologous and heterologous transfusion on homeostasis and hematological parameters in cardiac surgery

Abstract

Introduction: Autologous transfusion is a longstanding concept; and has many advantages, particularly for complex operative procedures, such as cardiac surgery and organ transplantation. A.N.H technique, one of the three types of autologous transfusion was used in patients who were candidates for CABG surgery with cardiopulmonary bypass (CPB).

Materials and Methods: The records of 410 Patients who have been CABG operated in Be'sat and Shahid Chamran hospital in 2002 has been studied in a descriptive observation study. In this research, the patients who showed no symptom of certain disease such as anemia, kidney disease, and severe liver disease, were included. A careful and scientific study of these cases required enough information about their age, sex, cell blood count, PT, PTT, INR, O₂ Saturation and amount of their needed blood products. Lack of enough information regarding any of these factors excluded that patient from our study.

Results: In this research, 410 Patients, mostly male (74.6%) and with the commonest age range of 60-64(19.51) have been studied. The amount of Hb of their blood showed no change before and after CABG operation in autologous and heterologous group but the amount of platelet was more in the latter.

After the operation, there was no difference on the amount of O₂ Saturation and homeostasis parameters before and after CABG in both heterologous and autologous transfusion. But the need for blood products was more in heterologous group during the operation and ICU care period.

Conclusion: A.N.H decreases the amount of homologous blood use. Therefore this technique is recommended in all patients with adequate Hb concentration who are candidates for cardiac surgery with CPB.

Keywords: CABG, Autologous and Heterologous transfusion
Homeostasis, Hematological Parameters

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