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Vasopressin infusion in patients with vasoplegic shock after cardiac surgery

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Methods: It was a retrospective study of 17 patients with vasoplegic shock and organ failure evidence after on- pump cardiac surgery, with vasoplegic shock that needed a noradrenalin infusion higher than 20 mcg/min, to achieve a mean artery pressure of 65 mmHg. In this subset of patients we initiated a vasopressin dose of 0.03 U/min.

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 Results: A total of 17 patients were included for the analysis. Age 66+/-13 years, male 82%, median Euroscore 11 (interquartile range (ICR) 25%-75%, 7,38-16,6), bypass time 181 +/-54.

 Hemodinamic changes after vasopressin infusion are shown in table 1

Noradrenalin dose was 27 mcg/min (ICR 25-75% 20-40) before vasopressin infusion and 16 mcg/min (ICR 25-75% 9-30) 24 hours after (p=0.04). 8 patients died (47%), 17 had renal failure (100%), 8 dialysis (47%), 4 had myocardial infarction (23.5%), and 8 atrial fibrillation (47%).

We defined a cutoff value for lactic acid of 2.5 mmol/l, which was the best value to predict death in the ROC curve (area under the curve=0,84, sensitivity 87.5% specificity 66.7%). The persistence of lactic acid values above 2.5 mmol/l, in the first 24hs was associated with a ten-fold increase in mortality (OR 10, p=0.04).

Discussion: Vasopressin maybe considered as an option in cathecolamine resistant vasoplegic shock because of its hemodinamic profile and is associated with a reduction in noradrenalin dose in these patients. Vasopressin may be associated with better tissue peripheral perfusion in vasoplegic shock after cardiac surgery, evidenced by a reduction in lactic acid.

	Pre Vasopressin (ICR 25- 75%)	3 hours (ICR 25- 75%)	24 hours (ICR 25-75%)	р
Heart rate (bpm)	117 (105-126)	110 (95-127)	97 (90-111)	0.0088
Systolic blood pressure (mmHg)	93 (90-98)	100 (95-115)	106 (101-110)	0.05
Mean blood pressure (mmHg)	68 (59-76)	75 (66-81)	79 (67-83)	0.11
Systemic vascular resistance (dynas/sec. cm-5)	841 (771-988)	935 (864-1081)	1104 (810-1192)	0.11
Pulmonary vascular resistance (dynas/ sec.cm-5)	182 (126-226)	142 (110-197)	158 (101-175)	0.13
Cardiac index (l/min/m2)	2.8 (2,53-3,25)	2.76 (2,51-2,83)	2.66 (2,32-3,16)	0.52
Lactic acid (mmol/l)	5 (3,2-7)	4 (2,4-7.6)	2.5 (1,9-10,4)	<0.05
pH	7.32 (7,30-7,39)	7.35 (7,31-7,38)	7.40 (7,30-7,42)	0.4