ANESTHETIC MANAGEMENT DURING OPEN SURGERY OF THORACOABDOMINAL ANEURYSM REPAIR WITH EXTRACORPOREAL MEMBRANE OXYGENATION. OUR EXPERIENCE IN 13 CASES

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BACKGROUND:

Open repair of thoracoabdominal aortic aneurysms (ORTAAA) is one of the most demanding and challenging interventions due to the compromise of the visceral and spinal cord blood flow. Further classical approaches (range from "clamp and sew" technique to left atrial femoral bypass), extracorporeal membrane oxygenation (ECMO) could offer advantages: easier implantation technique, less surgical exposure, control on patient's temperature or improved oxygenation and tolerance during one-lung ventilation.

GOAL OF THE STUDY:

The aim of this study is to **describe** the anaesthetic management of 13 patients undergoing elective ORTAAA using ECMO, as well as to identify a potential decrease in **perioperative complications** and its **predictors**.

MATERIAL AND METHODS:

A series of **13 patients**, collected from 2015 to 2017 submitted to ORTAAA (usually Crawford type 3) through ECMO. We analyze the predictors of **paraplegia** and **acute renal failure (ARF)** the Pearson Chi-square test.

Prosthesis installed in the aorta usually by thoracofrenolaparotomy approach.

There were performed through balanced general anaesthesia with univent bronchial blocker, invasive monitoring, pulmonary artery catheter (Swan-Ganz), transoesophageal ecocardiography, epidural catheter and cerebrospinal fluid drainage system.

RESULTS AND DISCUSSION:

- ❑ We got ischemia times **below 30 minutes** in **6 patients** (46 %), between **30-60 minutes** in other **6 patients** (46%) and **above 60 minutes** in **1 patient** (8%).
- ❑ Cross-clamp times greater than 60 minutes make 1,2 times (OR=8,33) more likely to suffer renal failure.
- ❑ 100% of patients with a time greater than 60 minutes had paraplegia. And 16,7% with time less than 30 minutes.
- ❑ Although the results were **not significant** ($p>0.04$).

VISCERAL BRANCHES CROSS-CLAMP TIMES: (Ischemia times)

PERIOPERATIVE COMPLICATIONS	NUMBER OF PATIENTS (%)	
Neurological	2 (15.3%)	Paraplegia
Cardiovascular	3 (23%)	Atrial fibrillation
Respiratory	3 (23%)	Prolongued mechanical ventilation (2 tracheostomy)
Renal	11 (84.6%) <24 hs. 2 (15.3%) >48 hs.	Acute renal failure Renal replacement therapy
30-day Mortality	2 (15.3%)	Multiorgan failure and massive hemorrhage

CONCLUSIONS:

In our experience, although It would be necessary to increase the sample size in order to establish a statistical significance, performing this surgery using **ECMO seems to reduce perioperative complications due to the decrease in ischemia times**. This could improve the patient prognosis.