**Título:** ANESTHETIC MANAGEMENT OF A PATIENT WITH HYPERTROPHIC CARDIOMYOPATHY POSTED FOR RADICAL NEPHRECTOMY AND TUMOR EXCISION EXTENDING TO THE INFERIOR VENA CAVA AND RIGHT ATRIUM

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**Área Terapêutica/Tema:** Circulação (clínica e experimental) (Clinical and Experimental Circulation)

**Resumo:**

Background

Hypertrophic cardiomyopathy (HCM) is the most common genetic cardiovascular disorder, characterized by asymmetric hypertrophy of the interventricular septum that leads to intermittent obstruction of the left ventricular outflow tract (LVOT). Anesthesia and surgical stress can lead to exacerbation of LVOT obstruction and may complicate the perioperative course. We describe the successful management of a patient with HCM who underwent radical nephrectomy and tumor excision extending to the Inferior Vena Cava (IVC) and Right Atrium (RA).

Case report

A 46-year-old with a renal tumour invading the IVC and RA was admitted for a radical nephrectomy and excision of the invading mass requiring a multidisciplinary approach by a team of urologists, vascular and cardiac surgeons.

The patient had hypertrophic cardiomyopathy and an Implantable Cardioverter-Defibrillator (ICD) for primary prevention of sudden death. Additionally, he had been diagnosed with recurrent pericarditis and chronic anaemia. Pre-operative tests showed an haemoglobin concentration of 9.4 g/dL and an elevated C-Reactive Protein (CRP) level without other changes. Prior to the induction of anesthesia, an ICD Technician turned off the device and external defibrillator paddles were applied to the patient’s thorax. Standard American Society of Anesthesiologists (ASA) monitors were applied together with bispectral index (BIS) and Train-of-Four (TOF) monitoring devices. Invasive blood pressure monitoring was also established at this point.

General anesthesia was induced by administering 2mg of midazolam, 0,1mg of fentanyl, 15mg of ketamine, 50 mg of propofol and 100mg of rocuronium. Orotracheal intubation was performed uneventfully and mechanical ventilation initiated. The transoesophageal echocardiography probe was placed in the oesophagus and an echocardiography examination performed.

Anesthesia was maintained with perfusions of propofol, remifentanil and cisatracurium and extracorporeal circulation was established. The patient remained hemodinamically stable throughout the procedure. A blood loss of approximately 1500ml was estimated and a total of 5 red cell units, 2 frozen fresh plasma units and 1g of fibrinogen were administered. The tumor was successfully resected and the procedure lasted approximately 4 hours. Thromboelastometry was performed in the end and no coagulopathies were detected. The patient was transferred to the ICU.

Discussion

The primary goal of the anesthetic management of patients with HCM is to be vigilant and prevent the physiological triggers that can lead to arrhythmias, dynamic LVOT obstruction and myocardial ischemia like catecholamine surges (for example during laryngoscopy, tracheal intubation and extubation) and blood loss. In this clinical case, the challenging anesthetic management of a patient requiring extensive multidisciplinary surgery was compounded by structural cardiac disease with major impact in the anesthetic approach.

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