**Título:** THYMOGLOBULIN-INDUCED SEVERE HYPOTENSION DURING RENAL TRANSPLANTATION

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**Área Terapêutica/Tema:** Farmacologia (Pharmacology)

**Resumo:**

Introduction

Thymoglobulin is a polyclonal antibody used in the prevention and treatment of rejection following renal transplantation, due to its lack of nephrotoxic properties. We present a case of severe hypotension after a single dose of thymoglobulin during a renal transplant.

Case Report

A 67-year-old man suffering from end-stage renal disease due to diabetic nephropathy was scheduled for renal transplantation. Past history revealed anaemia, hypertension, left ventricular hypertrophy, a thalassemia minor and peripheral arterial disease. Preoperative blood analysis showed a mild anaemia (Hb: 11,1 g/dL) with a normal coagulation status and base creatinine of 6mg/dL.

General anesthesia was induced smoothly with co-administration of 0.15mg of fentanyl, 160mg of propofol and 50mg of atracurium. Anesthesia was maintained with sevoflurane/air/O2, atracurium for neuromuscular blockade, and fentanyl for analgesia as needed. In accordance with our institutional protocol for renal transplantation, flucloxacillin 1g and cefuroxime 1,5g were infused as antibiotic prophylaxis was administered prior to surgical incision. After induction, the patient was monitored with invasive arterial blood pressure and CVP and remained haemodynamically stable throughout the surgery. A total dosage 46mg of thymoglobulin was given in one hour until, suddenly, a refractory bradycardia ensued and mean arterial pressures dropped from 80 to 30 mmHg. A noradrenaline infusion was initiated at 10mcg/min. No significant blood losses were observed, arterial blood gases showed no relevant alterations and intraoperative transoesophageal echocardiography revealed a good left ventricular function and no evidence of acute pulmonary thromboembolism. The perfusion of thymoglobulin was stopped and, as a result, hemodynamic stability was regained. The procedure lasted for 100 minutes. At the end, anaesthetic agents were discontinued, and the patient was successfully extubated and transferred to the ICU. In the immediate post-operative period, there were two more attempts to reintroduce thymoglobulin at slower perfusion rates but, due to haemodynamic instability and the possibility of anaphylactic reaction, it was switched to basiliximab.

Discussion

Thymoglobulin administration is generally uneventful and anaphylactic reactions are rare. Reactions to thymoglobulin are usually due to release of cytokines by activated monocytes and lymphocytes, known as severe cytokine release syndrome, which can be associated with serious cardiovascular events. This case was observed within an hour of initiation of thymoglobulin administration. Immediate halting of the infusion and prompt management of haemodynamic instability were key to a successful outcome.

References

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