**Título:** Primary Lateral Sclerosis ? can rocuronium be an option?

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**Resumo :**

Introduction: Primary lateral sclerosis (PLS) is a neurodegenerative motor neuron disorder that is characterized by corticospinal and corticobulbar dysfunction. Clinical hallmarks of this disorder include stiffness, clumsiness and mild weakness with signs of spasticity and hyperreflexia.

As PLS is classified as a motor neuron disease, muscle relaxants in general anesthesia should be used with extreme caution. Literature concerning anesthetic management in patients with this disorder is scarce with no case reports published of neuromuscular block agent’s usage in general anesthesia. We present the first case of a balanced general anesthesia in a patient with PLS.

Case Description: A 67-year-old woman with a history of PLS was scheduled for laparoscopic gastrostomy due to long-term dysphagia. In the preoperative assessment, she presented a tetrapyramidal syndrome with generalized muscle weakness, bilateral lower extremity spasticity as well as dysarthria.

Patient was monitored following ASA standards, BIS and neurostimulator. Priming dose of of 5mg of rocuronium was administered and train-of-four (TOF) ratio (T4/T1) after 60 seconds was 70% so induction was followed with propofol and additional 40mg of rocuronium with no intercurrences. After 90 seconds when T1 was lost, the patient was intubated without any difficulty. During surgery, the patient remained hemodynamically stable and the TOF ratio increased progressively until 70%, 22 minutes after a final bolus of 10mg of rocuronium. Prior to emergence, 150mg of sugammadex was given and neuromuscular block reversal was evidenced with TOF ratio> 90%.

Discussion: As it was decided to perform surgery laparoscopically, general anesthesia with neuromuscular blockage was necessary in order to enhance easier manipulation of the anatomical structures.

It is documented that depolarizing muscle relaxants such as succinylcholine should be preemptively avoided. Consequently, rocuronium was the agent of choice. Since it is reported that patients with motor neuron diseases show an increased sensibility to non-depolarizing muscle relaxants (NDMR), these agents should be used cautiously. Adversely to what studies document, no augmented responsiveness was shown in TOF monitoring, so standard dosis of 0.6mg/kg of rocuronium was safely given. A final bolus of NDMR was administered after 54 minutes, demonstrating a similar pharmacokinetics profile in terms of duration of action as reported in several studies in healthy patients (45-70 minutes).

In addition, a full and rapid neuromuscular blockage recovery with 2mg/kg of sugammadex was seen.

Learning points:  safe use of muscle relaxant in PLS; pharmacokinetic profile of muscle relaxant in PLS; safety in neuromuscular block reversal with sugammadex;

Fleisher LA. (2012) Anesthesia and Uncommon Diseases. Saunders, Philadelphia. pp 273-275.