**Neurociências (Neurosciences)**

**Título:** ANAESTHETIC MANAGEMENT OF A PATIENT WITH DEEP BRAIN STIMULATION IMPLANT FOR TOTAL PAROTIDECTOMY

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**Área Terapêutica/Tema:** Neurociências (Neurosciences)

**Resumo:**

Background

Parkinson's disease (PD) is an extrapyramidal system disorder characterised by rest tremor, rigidity, bradykinesia, and gait impairment. Deep brain stimulation (DBS) is an alternative and effective treatment for severe and refractory PD, essential tremor or intractable epilepsy. Nonetheless, there is little information available on the management of patients with DBS implant, proposed for surgery. Here, we present a case of severe PD under DBS therapy who underwent a total parotidectomy under Total Intravenous Anaesthesia.

Case Report

A 67-year-old man diagnosed with PD for the past 18 years and with implanted DBS electrode was scheduled for left total parotidectomy for a Whartin tumor. He underwent DBS implantation surgery 8 years ago, that resulted in marked improvement of his symptoms. The patient was on a combination of carbidopa and levodopa, amantadine, sertraline and clonazepam and was able to walk, had only mild tremors of the left superior arm without muscle rigidity. On examination, no abnormalities of the cardiovascular system or respiratory system were detected. After discussion with the patient’s neurological team, it was decided to keep the device on because, even though the surgical field was close to the implanted system, diathermy was not essential. On the morning of surgery, his usual medication for PD was given.

General anesthesia was induced with co-administration of propofol and remifentanil by target-controlled infusion. Rocuronium was used to create better intubating conditions but residual neuromuscular blockade was reversed with sugamadex 200mg for facial nerve evaluation. Standard ASA monitoring as well as bispectral index and neuromuscular monitoring were applied. Patient was haemodynamically stable throughout the surgery and the procedure lasted for 280 minutes. At the end, anaesthetic agents were discontinued, and the patient was successfully extubated. Postoperative analgesia was secured using a multimodal analgesia with paracetamol, metamizole, parecoxib and tramadol.

Discussion

Anaesthesia in patients with implanted neurostimulator requires special consideration because of the potential interaction between the neurostimulator and the diathermy. The anaesthesiologist should investigate the indication for placement, type, model of DBS, and consult with a specialist to plan his approach. Most DBS may be turned off during surgery, to mitigate the electromagnetic interference risk, but this is only accomplished with a magnet on some models. Regardless of the decision, the device should always be checked by a DBS specialist postoperatively. In case diathermy is essential, bipolar mode has been shown to be safer for use in these patients.

Also, turning the neurostimulator off can precipitate sudden respiratory dysfunction, so all decisions regarding a potential shutdown should be weighed against the potential risk.

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