**Título:** Saturnism and regional anaesthesia: where is the bullet?

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**Área Terapêutica/Tema :** Anestesia Regional (Regional Anaesthesia)

**Resumo :**

Introduction: Among adults, the majority of lead exposure occurs in the workplace. An uncommon source includes retained leaded bullets and may present as saturnism – chronic lead poisoning. Chronic manifestations include abdominal pain, excessive fatigue, neurologic impairment, anemia, and renal or cardiovascular disturbances, requiring a high degree of suspicion for diagnosis.

Clinical Case: We report a clinical case of a 50-year old male who presented with fever, chronic fatigue and anemia, abdominal pain and acute kidney injury. Past medical history included hypertension and a humeral fracture surgical repair due to a hunting accident 10 years ago. Investigation revealed high blood lead levels (79 mcg/dL) and a pre-scapular retained bullet, with a large infected haematoma adjacent to it, confirming the diagnosis of saturnism. The patient, classified as ASA II, was scheduled for surgery under regional anesthesia. An ultrasound-guided unilateral thoracic paravertebral block was performed at T4 and T7 levels, with a total of 30ml lidocaine 2%. 10 minutes later satisfactory anesthesia was achieved; and awake-surgery performed within 45 minutes, without patient complaints of pain or dyspnea, nor adverse haemodynamic events. Multimodal analgesia included 1g IV paracetamol, and 40mg IV parecoxib. Moreover, 4mg IV dexamethesone were administered for enhanced analgesia, prolonged block duration, and post-operative nausea and vomiting prophylaxis. The patient was safely discharged home the following day. 2-month follow-up showed normal renal function and anemia improvement, but blood lead levels remained high, due to chronic bone accumulation.

Discussion: Lead poisoning results in a multitude of signs and symptoms reflecting lead's systemic toxic effects. The history of a retained bullet raised concerns about lead poisoning and prompt imagological and laboratory evaluation confirmed the diagnosis. Treatment of lead poisoning includes reduction of the exposure (bullet removal), but also management of its complications. Avoidance of general anesthesia with possible neurologic involvement comes as a fundamental part of the anesthetic management, since neuromuscular junction function may be impaired and opioids have undesirable effects. Regional anesthesia proved to be a safe and successful approach for a patient with Saturnism scheduled for thoracic wall surgery.

References: Rev Bras Anestesiol. 2012; 62: 6: 863-868; Ann Emerg Med. 2020 Mar;75(3):365-367; Environ Health. 16, 34 (2017); Mil Med. 2018 Mar 1;183(3-4):e107-e113; BMJ Case Rep. 2017; 2017: bcr2016217351.







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