ACUTE TOXICITY ASSESSMENT FOR THREE SYNTHETIC CANNABINOIDs WITH POTENTIAL FOR ACTION IN CHRONIC NEUROPATHIC PAIN

**Background and Aims**
Neuropathic pain is produced by an injury or a disease that affects the somatosensory system, responsible for the sense of touch, pressure, pain, temperature, movement, and vibration, and is still difficult to treat with the pharmacological agents currently available on the pharmaceutical market. The endocannabinoid system appears to be a good target for the treatment of chronic neuropathic pain. A series of scientific reports published in the last 20 years showed the efficacy of some synthetic cannabinoids in various types of pain, especially by acting on CB2 receptors, which supports the hypothesis.

**Methods**
In this study we conducted an acute toxicity assessment for three synthetic cannabinoids selected based on their affinity for CB1 and CB2 receptors, following the recommendations of the OECD Guidelines for Acute Toxicity Testing, this being the first phase of an efficacy study ‘in vivo’ on animal models of chronic neuropathic pain.

**Results**
Our study showed that only one of the substances had toxic effects on the central nervous system, observable in the monitoring stage. Studied substances didn’t have a lethal effect, up to a maximum tested dose of 300 mg orally and 50 mg intraperitoneally.

**Conclusions**
These findings are very important for the next phase of our study as they suggest that at least two of these compounds have low oral and intraperitoneal toxicity.

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PULSED RADIOFREQUENCY IN CHRONIC SHOULDER PAIN: A STATE OF THE ART REVIEW

**Background and Aims**
Shoulder pain is a disease with a reported prevalence up to 26% and the incidence increases with age. Minimally-invasive treatments provide a short term analgesic benefit in patients not suitable for surgery.[1]

**Methods**
The sensory innervation of shoulder joint is provided by suprascapular nerve(SN), subscapular nerve(ScN), axillary nerve(AN), and lateral pectoral nerve(LPN).

Improving on the knowledge of the innervation of this area by cadaveric[2] and anatomic studies, a recent review proposed four distinct zones for fluroscopic-guided ablation.[1]

A recent systematic review highlights a lack of consensus in pRF protocols, the most commonly used is a pulsed frequency milliseconds with the treatment delivered over 2–10 min.[3]

The ultrasound technique is more recent and it has multiple advantages: real-time assessment, higher success rate and shorter treatment time, reduced complications, and absence of radiation.[4]

**Results**
All recent studies on ultrasound-guided pRF reported nerve radiofrequency is a safe and effective technique for treating chronic shoulder pain, providing significant improvement in pain and functional scores during at least 6 months[5]. However, a meta-analysis of the seven RCTs found no analgesic benefit or functional improvement over conventional management.[3]

The limiting factors would be the following: most of the studies targeted the SN with a few publications on other possible targets, the extreme heterogeneity in scores to assess pain and functional capacity, the absence of a punctual diagnosis and the absence of a prognostic block with local anaesthetics.

**Conclusions**
To properly assess efficacy of RF treatments additional large-scale studies and controlled comparative-effectiveness trials are required.

PAIN INTERVENTIONAL TREATMENT AFTER EPISIOTOMY SENSITIZATION

**Background and Aims**
Pelvic pain from an episiotomy could be a debilitating and painful condition affecting women giving birth vaginally. Various treatments have been used in clinical practice to relieve pelvic pain with little efficacy. (1) We report the case of a patient with chronic pelvic pain after episiotomy conditioning sexual dysfunction submitted to pudendal radiofrequency using a modified approach, with a great improvement.

**Methods**
A 31-year-old female was referred to Pain Medicine Unit due to pelvic pain in the local of episiotomy scar. She referred intense pain with neuropathic characteristics since her last pregnancy, in 2017. She was initially medicated with conducting inhibitors with a mild improvement, being also submitted to some off-label treatments in another Pain Medicine Unit. After the first evaluation in our Unit she was medicated with pregabalin and magnesium supplements, being proposed to pudendal nerve radiofrequency. An anterior approach of left pudendal nerve was performed by anatomic references. Due to high level of fibrosis and high tissue impedance, a modified approach using two needles in parallel position was performed. Radiofrequency was complemented with scar infiltration with ropivacaine and dexamethasone.

**Results**
After the procedure the patient maintained asymptomatic.

**Conclusions**
Episiotomy is still often performed in the context of vaginal deliveries. It is often associated with increased morbidity, and is currently included in situations of obstetric violence. Chronic pelvic pain associated with episiotomy is relatively frequent and its treatment could be truly challenging. We report the successful case of chronic pelvic pain treatment using a modified approach of pudendal radiofrequency.