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Recurrent lacrimal neuralgia secondary to ophthalmological procedures[☆]



Neuralgia lagrimal recurrente desencadenada por procedimientos oftalmológicos

Dear Editor:

Lacrimal neuralgia, an infrequent cause of orbital and peri-orbital pain, was first described in 2013.¹ The 2 patients presented in the original description had constant pain in the areas innervated by the lacrimal nerve (the lateral part of the upper lid and adjacent area of the temple). Accompanying symptoms were sensory dysfunction and hypersensitivity upon palpation of the lacrimal nerve in the superolateral angle of the orbit. In both cases, diagnosis was confirmed by a deep anaesthetic block of the lacrimal nerve with lidocaine 2%; however, pain was alleviated only for a few hours. In subsequent cases,^{2–4} a simpler anaesthetic technique was used: a superficial block of the lacrimal nerve by a subcutaneous injection of bupivacaine 0.5%, which has been shown to be useful as a short- and long-term diagnostic and therapeutic technique. To date, 7 cases of lacrimal neuralgia have been published, most of them primary or idiopathic. Only one case secondary to ophthalmic surgery has been reported³; in this case, pain was paroxysmal, with multiple episodes per day lasting 1–2 minutes. This case showed that lacrimal neuralgia can have a compressive or traumatic origin. We present a new case of lacrimal neuralgia secondary to ophthalmological procedures.

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Our patient was a 53-year-old man with wet age-related macular degeneration and migraine with aura as the only relevant history. The patient visited our hospital due to a 15-month history of pain limited to a very small (3 cm diameter) area in the left temple, manifesting for the first time after a session of argon laser photodynamic therapy of the left eye. Pain was intense (8 on a 0–10 numeric scale), oppressive, and manifested in episodes lasting up to 72 hours which appeared only when he visited the ophthalmologist to receive intravitreal injections of aflibercept (anti-vascular endothelial growth factor [anti-VEGF]) every 3 months. He simultaneously presented allodynia and hyperalgesia in the treated area. Examination during the intercritical period revealed hypersensitivity to palpation of the left lacrimal nerve and hyperalgesia in the affected area (Fig. 1). No other significant findings were observed in the neurological or systemic examinations. A brain magnetic resonance study was performed, revealing only signs compatible with mild microangiopathy.

The patient visited our department on 2 subsequent occasions due to new episodes of pain, which had started



Figure 1 Hyperalgesic area delimited during the examination of the patient in the first consultation.



Figure 2 Lacrimal nerve block. The needle is inserted through the eyebrow tail and is directed upwards and sideways to the temple. The anaesthetic solution is injected into the subcutaneous tissue.

15-30 minutes previously and coincided with the intravitreal injection of aflibercept. We performed superficial anaesthetic blocks of the left lacrimal nerve by subcutaneous injection of 0.5 cc of bupivacaine 0.5%, with the same technique as was used in the previous cases (Fig. 2). On both occasions, pain was relieved immediately and completely, and the patient remained asymptomatic during the months preceding the next injection.

The lacrimal nerve is one of the 3 branches of the ophthalmic division of the trigeminal nerve. It penetrates the orbit through the superior orbital fissure, and descends along the lateral wall, following the upper border of the lateral rectus muscle. It emerges from the superolateral angle of the orbit to the temple and the lateral portion of the upper lid.⁵ Where it emerges, the nerve runs through the subcutaneous space and describes a kinking on the outer edge of the orbit, where it may be affected by local pressure. Although the majority of published cases of lacrimal neuralgia have been considered primary or idiopathic, some cases may have been associated with subtle mechanical factors triggered by eye movements, or with compression of other structures on the nerve path.

The first case of symptomatic lacrimal neuralgia was reported in 2014; the patient presented paroxysmal pain and responded, as did the present patient, to superficial nerve block with bupivacaine 0.5%.³ In that first case, pain was triggered by cataract surgery. In the present case, neuralgia manifested recurrently, with the first episode occurring after a session of photodynamic therapy, during which a contact lens was placed on the patient's orbit,^{6,7} and with subsequent episodes triggered by intravitreal injections of anti-VEGF performed using an eyelid speculum or blepharostat.^{8,9} The procedure to place the lens or the blepharostat, or the pressure exerted on the nerve emergence throughout the procedure could possibly act as the traumatic cause of the neuropathic pain.

No information is yet available regarding the incidence of lacrimal neuralgia associated with ophthalmological procedures, but it is likely to be one of the causes of pain following these procedures. The identification of this type of pain may be of interest from a therapeutic perspective, since lacrimal neuralgia and other terminal branch neuralgias may respond satisfactorily to anaesthetic block treatment.¹⁰

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