Superficial Fibular Nerve Block and Dermatofibroma Surgical Scar Hydrodissection: Trying to Relieve a Child Neuropathic Pain

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AIM INVESTIGATION

The treatment of post-surgical pain, one type of neuropathic pain, is challenging and often requires a multimodal therapeutic approach. Peripheral nerve block can be used in the cases in which systemic therapy is not able to control symptoms. In children, the management of such cases can be even more difficult, as psychological aspects can have a prominent role and act as a confounding factor. We report a case of 9 y/o child who came to us complaining about a persistent leg pain one year after ressection of a dermatofibroma in her left foot dorsum.

METHODS

Medical record review and family consent

A 9 y/o female child with a history of a surgery of a dermatofybroma in her left foot dorsum came to our pain medicine service 12 months after the surgery (09/05/2017), complaining about pain in spite of the use of multiples analgesic systemic medications (see box below), physiotherapy and psychological support.

01/23/2018 gabapentin 300 mg bid	02/17/2017 gabapentin 300 mg bid + metamizole 500 mg qid
02/23/2017 gabapentin 300 mg tid + tramadol 50 mg tid + metamizole 500mg qid	03/08/2017 gabapentin 300 mg qid + amytriptiline 12.5 mg qd + metamizole 500 mg qid
03/29/2017 pregabalin 75mg bid + tramadol 35 mg qid + metamizole 500mg qid + amytri ptiline 12.5mg bid	04/26/2017 gabapentin 300 mg tid + methadone 5mg qd + amytriptiline 12.5mg bid
05/24/2017 tenoxicam 20mg bid + paracetamol 500 mg qid	06/30/2017 gabapentin 300 mg bid
07/31/2017 gabapentin 300mg qd+ amytriptiline 12.5mg qd + lidocaine ointment 5% qd	08/29/2017 amytriptiline 12.5 mg qd
09/12/2017 Superficial peroneal nerve block + hydrodissection of surgical scar	11/07/2017 until today – No regular medication

CASE REPORT

Physical exam revealed allodynia in the dorsum of left foot with claudication during physical activities, impacting school education and social development. Electroneuromiography showed an axonotmesis of left superficial fibular nerve, and nuclear magnetic resonance exposes an alteration of signal and heterogeneity in superficial subcutaneous dorsolateral region of left foot. We planned to perform a superficial peroneal nerve block and a hydrodissection of the surgical scar with US guidance for analgesia. After the informed consent and discussion with the family, the patient was moved to the operating room where we placed an intravenous peripheral catheter and standard monitors. General anesthesia with a laryngeal mask n° 3,0 was performed for ventilation during the procedure. An Ultrasound machine with HFL38× probe (13-6Mhz linear array) was used to identify the anatomic structures. The first attempt was made with the patient in the right lateral decubitus position and the superficial peroneal nerve was recognized using a linear transducer placed transversely to the leg, 10 cm proximal to the lateral malleolus to visualize the hyperecoic nerve branches. We advanced the transducer proximally until we find superficial peroneal nerve lying between extensor digitorum longus and peroneus brevis muscles, using the fibula as a reference structure. With a 25-gauge needle, after negative aspiration, a solution of 15 mL of 0.5% ropivacaine, 30 mcg of clonidine and 2.5 mg of dexametasone was deposited circumferentially around the superficial peroneal nerve. An US-guided hydrodissection of the region of the wound was also performed with the injection of 8 ml of 0.5% ropivacaine. After that we proceeded to the emergence of anesthesia, with the removal of the laryngeal mask without any adverse event.

RESULTS

While in the preoperative phase the patient reported 10/10 pain in the dorsum of the foot on a verbal analog scale (VAS), thirty minutes after procedure the report was of a 3/10 pain. The patient reported pain relief and was able to engage in her routine school activities and restored function of the affected foot. After 6 months of the blockage, she does not report any allodynia. No pain control medication is needed.

CONCLUSION

Pediatric patients experience of pain is more difficult to assess and treat in comparison to adults. Evidence demonstrates that controlling pain in the pediatrics age period is beneficial, improving physiologic, behavioral, and hormonal outcomes. Refinement of communication between family and physician is needed for a precise evaluation of pain in pediatric patients. As part of multidisciplinary management of pediatric chronic pain, interventional pain management techniques can play an important role when pain is unrelieved by conventional treatments.

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