ADMINISTRATION CASE REPORT WITH iovera°

This case report represents the individual experience of Dr Eve Boissonnault, and is intended to demonstrate her methodology for using iovera° to treat pain associated with spasticity.

Pacira BioSciences, Inc. recognizes that there are alternative methodologies for administering the iovera° treatment, as well as individual patient considerations.

CASE INFORMATION	
Physician Name	Eve Boissonnault, MD
Affiliation	Physiatrist Division of Physical Medicine and Rehabilitation University of Montreal Montreal, QC, Canada
Treatment Performed	Ultrasound-guided iovera° treatment (with iovera° 2190 Smart Tip with Nerve Stim) for pain associated with spasticity

PATIENT CHARACTERISTICS	
Gender	Female
Age	59 years
Patient History and Characteristics	Patient has mild cerebral palsy (GMFCS level II) with painful right hemiplegia affecting the leg more than the arm. She has undergone various surgical procedures related to her spasticity, including tendon lengthening to the right leg during childhood and a right THA plus adductor tendon release 3 years ago
Chronic Medications	Ibuprofen as needed

DAY OF iovera° TREATMENT	
Day of Treatment Clinic Setup	iovera° handheld device, Smart Tip 2190 with Nerve Stim, peripheral nerve stimulator, ultrasound gel, 4x4 gauze pads, alcohol prep pads, adhesive bandages, antiseptic skin prep, local anesthetic, 27-gauge needle, 5-mL syringe, skin marker, lidocaine for skin wheal, 16-gauge, 1.16-inch peripheral IV catheter (if an introducer is chosen), linear ultrasound probe (and probe covers, if desired)
Patient Pain Assessment and Medications	Pretreatment pain: average pain reported as 8/10 while walking Patient reported impaired gait pattern, which negatively affected her work Modified Ashworth Scale of both gastrocnemius and soleus muscles: 4
Patient Positioning	Prone
Pain Location	Burning pain on lateral border of right foot, increased when walking; constant painful tightness in right calf
Nerves Selected for Treatment	Right tibial trunk

GMFCS=Gross Motor Function Classification System; IV=intravenous; THA=total hip arthroplasty.

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Diagnostic Nerve Block

A peripheral nerve block with lidocaine 2% was performed under ultrasound guidance at the right tibial nerve trunk 1 month before the iovera° treatment to verify reduction of pain, subsequent reducibility of the deformity with reduction in spasticity, and improved range of motion.

Treatment Site Preparation

The patient was positioned prone so that the popliteal fossa anatomy could be easily visualized under ultrasound and the handheld device could remain within 45 degrees from vertical.

Prior to skin preparation, the surface anatomic landmarks were drawn with a skin marker to mark the insertion sites for the treatment probe. The area was prepped with a chlorhexidine 2% swab. A small local anesthetic skin wheal was created and lidocaine 1% was administered to provide patient comfort at the site of treatment. To avoid a false block, which could mask the result of the cryoneurolysis treatment, caution was taken not to deposit local anesthetic at the level of the nerve. A 16-gauge, 1.16-inch peripheral IV catheter was inserted at the treatment location to facilitate Smart Tip 2190 with Nerve Stim placement.

iovera° Treatment Details

TIBIAL NERVE

The patient remained prone during the procedure. The ultrasound probe was positioned on the posterior side of the knee joint, about 2 cm above and in the middle of the popliteal fossa (**Fig 1**).

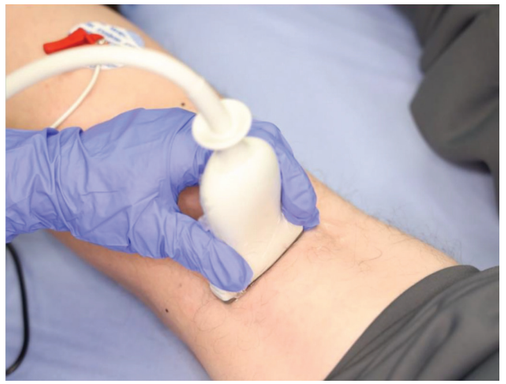

FIGURE 1: Ultrasound probe positioning for targeting tibial trunk.

iovera° Treatment Details (continued)

The tibial nerve was identified in the short axis (transverse plane) adjacent to the popliteal artery and vein (**Fig 2**).

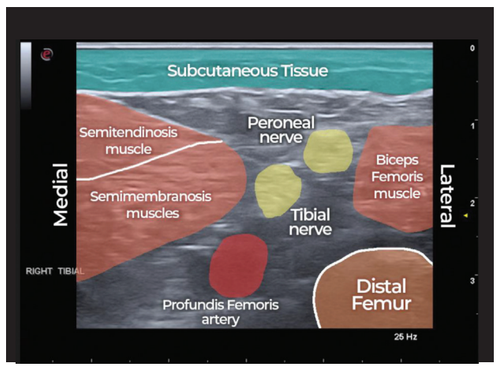

FIGURE 2: Transverse ultrasound of the popliteal fossa.

The intended insertion site was marked, and a local anesthetic wheal was created. The catheter was placed in the intended Smart Tip trajectory. The Smart Tip 2190 with Nerve Stim was inserted through the catheter and positioned slightly beyond the tibial nerve trunk to elicit a stim response (**Fig 3**). The Stimulator was set between 0.6 and 1 mA. Once location was confirmed, a treatment cycle was performed.

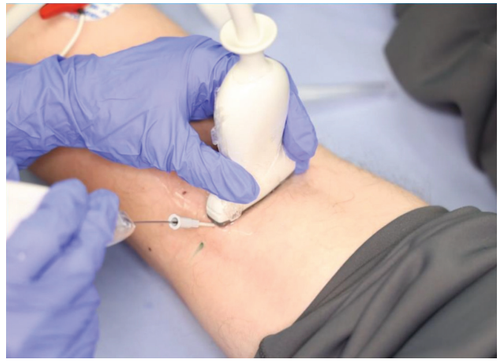

FIGURE 3: Smart Tip 2190 with Nerve Stim insertion through catheter for targeting tibial trunk.

The Smart Tip was repositioned and 2 additional cycles were performed at the medial and lateral aspects of the tibial nerve trunk, respectively. The patient experienced mild cramping of the gastrocnemius during the initial portion of the treatment cycle, which resolved by the completion of the treatment cycle. She had reduction in pain immediately after the procedure.

TREATMENT EFFECT	
Clinical Outcome	Reduced pain to the lateral border of the right foot when walking and reduced painful tightness of the right calf, leading to improved gait speed and pattern

POSTTREATMENT ASSESSMENT	
Posttreatment Day 0	Immediate improvement in pain was reported. Passive ankle range of motion was observed. Gait pattern showed improved comfort with walking. Day 0 posttreatment pain score was reported as 0/10
Posttreatment at 1 Month	Significant reduction of pain to the lateral border of the right foot and right calf. Pain with walking was reported as 3/10, which allowed the patient to ambulate without the need to rest
Posttreatment at 10 Months	Gains maintained in pain reduction, range of motion, and gait pattern. Pain score was reported as 3/10
Posttreatment at 1 Year	Continued improvement in pain, range of motion, gait pattern, and function. Pain score was reported as 3/10

Scan here to see the difference iovera° can make for your patients with pain associated with spasticity.

Disclosure: Dr Eve Boissonnault is a paid consultant for Pacira BioSciences, Inc.

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