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Short Communication

Transgluteal Pudendal Neurolysis: Andrology adds Precision Treatment of Chronic Pelvic Pain

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DESCRIPTION

Neurolysis, or decompression, of the pudendal nerve is the third level of precision treatments for Pudendal Neuropathy (PN). Transgluteal neurolysis confirms pudendal nerve compression visually, by immediate improvements of intraoperative EMGs, and by monitoring with validated metrics [1,2]. Definite is the highest level of certainty of neuropathy in the hierarchy of the International Association for the Study of Pain when objective somatosensory testing is abnormal [3]. The Nantes Criteria offer only a possible or probable diagnosis of PN [4]. The simple probable diagnosis of PN is followed by testing for the definite diagnosis and discussed below, average time less than one hour.

Chronic Pelvic Pain (CPP) is not "Urological". It is a "Border Disorder" also claimed by other end-organ specialists. Symptoms that plague the subset of andrology patients with genital and/or pelvic pain and dysfunctions produce many pain phenotypes. Stratification into nociceptive *vs.* neuropathic etiologies is needed when our patient complaints include erectile dysfunction, persistent genital arousal syndrome, ejaculatory pain (also after nocturnal emissions), ejaculatory dysfunction (anorgasmia, anemission, low seminal fluid volume), scrotal pain (often called orchalgia), LUTS, penile pain, penile numbness, Peyronie's disease, post vasectomy pain and pain attributed to varicoceles. Each may have a pudendal neuropathic origin. Central sensitization is an almost universal phenomenon. Surprisingly, the parasympathetic fibers in the pudendal nerve often affect vagus nerve complaints including nausea, foul taste in mouth, painful teeth with a full bladder, profuse perspiration, patches of pelvic piloerection, tremors and others.

Andrological complaints (save infertility) require testing with a simple pinprick at three nerve sites bilaterally; the glans at the three and nine o'clock positions, the posterior scrotum and the posterior anal skin. Analgesia, hypoalgesia, or hyperalgesia will be abnormal at one or more sites in 92% of both genders [5-7]. Warm thermal detection and pudendal nerve latency tests, performed at consultation, provide a definite diagnosis for 100% of patients [8].

A focused examination for neuropathic pelvic pain seeks several "Additional" peripheral pelvic pain generators (64% of our PN cohort) [1]. Examination for these neuropathies is imperative for the precision diagnosis of neuropathic pelvic pain. A methodical, diligent effort using pressure of the examining finger over a nerve pathway will discover the painful neuroinflammation [9]. This simple technique identifies: Abdominal Cutaneous Neuropathies (ACNE), ilioinguinal and iliohypogastric neuropathies anteriorly. Then, posteriorly neuropathies of the T-12 posterior rami (at the lateral crestal point of Maigne) and the posterior cutaneous perforating nerve (medial crestal point). Neuropathy of the perineal branch of the Posterior Femoral Cutaneous Nerve (PFCN) using pressure over the femur at 4 cm below the ischial tuberosity, and middle cluneal neuropathies placing pressure at each sacral foramen at its superolateral edge [10-13]. Discovery of nodules or irregular masses of subcutaneous fat near the foramina contain fat that has herniated anterior to the sacrospinalis fascia, the back-mouse or episacroiliac lipoma [14,15]. The thoracolumbar junction requires elevation of a skinfold on the upper abdomen or flanks with a moderate grasp. By rolling this fold to the suprapubic region a painful pinch-roll may reproduce scrotal/testicular-like pain or other presenting complaints and cause referred pains that indicate involvement of nerves from the T-10 and L-2 vertebrae [12].

Neuropathies arising in the thoracolumbar region typically respond to a postural correction program that overcomes a mild hunchback (kyphosis) supplemented with concurrent infiltration of local anesthetics or cryoablation. Ilioinguinal neuropathy might require neurotomy. The middle cluneal nerves usually respond to anesthetic block but require neurotomy and excision of the episacroiliac lipoma, and mesh to close the sacrospinalis fascial hiatus.

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Pain recurrence

Pain recurrence after successful neurolysis is commonly self-inflicted by early return to excessive exercise and/or frequent intercourse. Healing of nerves, even in laboratory setting, is not predictable and is usually slow [9]. International reports discuss a 6 to 24 months' recovery period. Post-operative PNBs for both recurrent and persistent pain have provided life-long benefit and a successful technique uses bilateral PNBs at two levels shown in Figure 1. One infiltration is given medial to the ischial spine (the site of nerve transposition) and the second 2-3 cm lower (site of unroofed pudendal canal). Three PNBs are given at four-week intervals and include steroids. Additionally, desensitization is achieved using three weekly PNBs containing only lidocaine and bupivacaine. This method has returned normal functions to a man, bed-ridden after neurolysis in France and USA.

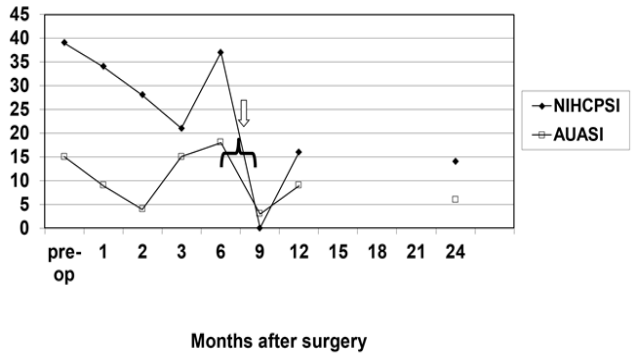

Figure 1: Treatment of recurrent pain. After initial pain/bladder control, symptoms recurred. Only two bilateral, two-level postop PNB were performed, containing lidocaine and bupivacaine and corticosteroid. Heparin was added to the second block (⇩); **Note:** NIHCPSI=female version of NIH Chronic Prostatitis Symptom Index (normal<18); AUASI=American Urological Association Symptom Index (bladder score) (normal ≤ 4).

Persistent pain

Persistent post-operative pain has multiple causes. The compression damage may be severe shown in Figure 2. Persistent pain due to inadequate neurolysis is reported [16]. It is most often caused by the "Additional" pelvic mononeuropathies. These require frequent re-examination. When present, nerve blocks are necessary, preferably concurrent with postop PNB. Three common examples include the I-I nerve causing persistent "Testicular" (scrotal) pains shown in Figure 3. The perineal branch of the posterior femoral cutaneous nerve may cause rectal, scrotal, and/or perineal pain to persist; middle cluneal neuropathies cause low back, buttock pain and referred suprapubic, rectal, bladder and penile pains. Central sensitization is a critical issue in persistence of postop pain that requires long-term treatments from the time of diagnosis at consultation and possibly for years following neurolysis [17].

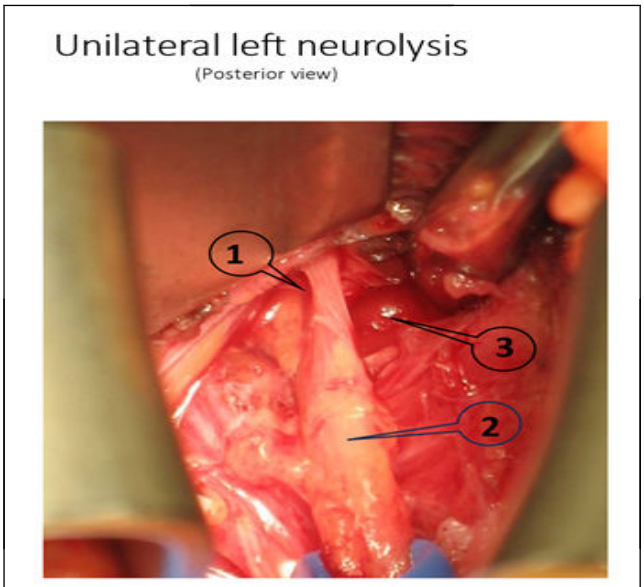

Figure 2: Nerve compression during a left unilateral pudendal nerve decompression. **Note:** 1) Severe compression superior to the sacrotuberous ligament; 2) Nerve distention due to obstruction of axonal flow and apparent herniations of subepineurial fat; 3) The fibrous sacrospinous ligament has been removed, releasing the "Lobster Claw" compression.

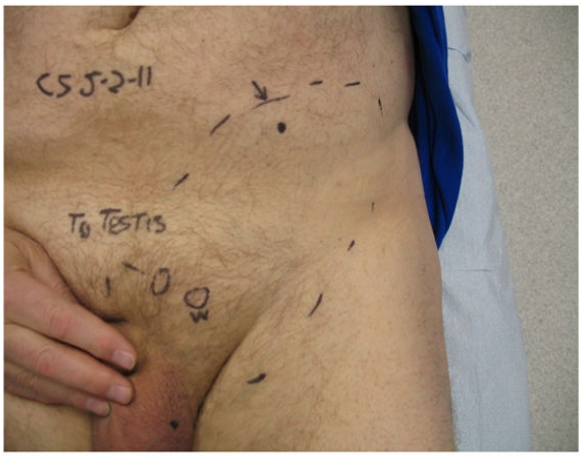

Figure 3: "Testicular pain" persists caused by ilioinguinal neuropathy. Orchalgia persists postop due to ilioinguinal and iliohypogastric neuropathies. **Note:** Infiltration sites (o) are medial and lateral to the pubic tubercle.

Sympathetic blocks are often needed to control central sensitization. Ganglion impars blocks have had little success in my patients' experiences. Trans-sacral sympathetic blocks and hypogastric plexus blocks had modest to very good benefits. A 5-day course of epidural anesthesia has had helpful to excellent responses. Sacral neuromodulation is not recommended unless the patient has failed two years of aggressive postoperative care. Clonidine 0.1mg @ hs is continued throughout the care of the patient.

To address a paradigm change for the evaluation and treatment of CPP, andrologists require unique cooperation among many specialties in cooperation with the National Institutes of Health and Institutional Review Boards. All clinical CPP and/or bowel, bladder, and sexual dysfunction research protocols should include stratification seeking pudendal neuropathy, thus separating nociceptive *vs.* neuropathic causes. Are pinpricks at each pudendal nerve branch too challenging? That simple examination would delay or avoid surgeries that are noted in my file of "Interesting Patients". Men in this file had persistent pain following prior operations. Surgeries included: Vasovasostomy for post-vasectomy pain, microscopic spermatic cord denervation, orchiectomy for orchalgia (unilateral or bilateral), epididymectomy for pain, injections or surgeries for Peyronie's disease, varicocele surgery for scrotal pain, sacral neuromodulation for LUTS, IC, etc., cystectomy for late-stage IC; Radical prostatectomy for CPP, Transurethral Resection (TUR) of ejaculatory ducts for pain and TUR prostate for pain.

CONCLUSION

A definite diagnosis of pudendal neuropathy can uncover the cause of several chronic pain phenotypes. Three specific and successful treatments are used sequentially: Nerve rest and medications, a series of three pudendal nerve blocks, then neurolysis, if necessary. Long-term treatments are required for persistent pain and central sensitization. Stratification, the distinction of nociceptive from neuropathic pains, must be added to all clinical research protocols for CPP. It also requires evaluation and treatments for several "Additional" peripheral mononeuropathies. Practitioners can adopt these successful methods immediately.

REFERENCES

1. Antolak S. Chronic pelvic pain: The neuropathic pain basis. DeckerMed Neurol. 2018.
2. Beco J, Seidel L, Albert A. Endoscopic transperineal pudendal nerve decompression: Operative pudendoscopy. Surg Endosc. 2018;32:3720-3731.
3. Finnerup NB, Haroutounian S, Kamerman P, Baron R, Bennett DL, Bouhassira D, et al. Neuropathic pain: An updated grading system for research and clinical practice. Pain. 2016;157(8): 1599-1606.
4. Antolak S, Chung M. Re: Adding corticosteroids to the pudendal nerve block for pudendal neuralgia: A randomised, double-blind, controlled trial. BJOG. 2017;124(7):1122-1123.
5. Antolak S. Pinprick testing will identify pudendal neuropathy in patients with chronic pelvic pain syndrome. J Anesth Pain Med. 2016;1(2):1-5.
6. Turner ML, Marinoff SC. Pudendal neuralgia. Am J Obstet Gynecol. 1991;165(4):1233-1236.
7. Zuelzer G. Irritation of the pudendal nerve (neuralgia). Berlin Klin Week. 1915;49:1280-1281.
8. Antolak SJ, Antolak CM. Chronic pelvic pain: Neurogenic or non-neurogenic? Warm detection threshold testing supports a diagnosis of pudendal neuropathy. Pain Physician. 2018;21(2):E125.
9. Devor M. Neuropathic pain: Pathophysiological response of nerves to injury. Wall and Melzack's textbook of pain. 2013:861-888.
10. Applegate WV. Abdominal cutaneous nerve entrapment syndrome. Surgery. 1972;71(1):118-124.
11. Langdon DE. Abdominal wall pain will be missed until examinations change!. Am J Gastroenterol. 2002;97(12): 3207-3208.
12. Maigne R. Thoracolumbar junction syndrome. Diagnosis and treatment of pain of vertebral origin. Boca Raton: Taylor and Francis. 2006:289-298.
13. Tubbs RS, Miller J, Loukas M, Shoja MM, Shokouhi G, Cohen-Gadol AA. Surgical and anatomical landmarks for the perineal branch of the posterior femoral cutaneous nerve: Implications in perineal pain syndromes. J Neurosurg. 2009;111(2):332-335.
14. Copeman WS, Ackerman WL. Edema or herniations of fat lobules as a cause of lumbar and gluteal fibrositis. Arch Intern Med (Chic). 1947;79(1):22-35.
15. Ries E. Episacroiliac Lipoma. Reported at a meeting of the Chicago Gynecological society. Am J Obstet Gynecol. 1937; 34:492-498.
16. Hibner M, Castellanos ME, Drachman D, Balducci J. Repeat operation for treatment of persistent pudendal nerve entrapment after pudendal neurolysis. J Minim Invasive Gynecol. 2012;19(3): 325-330.
17. Levesque A, Riant T, Ploteau S, Rigaud J, Labat JJ. Clinical criteria of central sensitization in chronic pelvic and perineal pain (convergences pp criteria): Elaboration of a clinical evaluation tool based on formal expert consensus. Pain Med. 2018;19(10): 2009-2015.