Pudendal Nerve Entrapment Syndrome

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The pudendal nerve is located in the pelvis and originates in the sacral Plexus (S2, S3, S4). It is hinted through the piriformis and coccygeus muscles and leaves the pelvis through the lower part of the greater sciatic foramen, crosses the spine of the ischium and returns to the pelvis through the lesser sciatic foramen. Runs accompanied by internal pudendal vessels and linked to the lateral wall of the trench ischiorectal, finding himself immersed in the two leaves of the fascia of the obturator called Alcock pudendal canal muscle. Its branches innervate the pelvic floor and part of the external genitalia. Comply with sensory, motor and autonomous functions.

Their possible alterations are diverse, mainly as a result of inflammatory or demyelinating. In other cases, the etiology is not known and together they cause pelvic discomfort of variable intensity and different location. Idiopathic urogenital and anorectal pain syndromes include among others, vulvodynia, orchialgia, proctalgia, protatodinia, coccidinia, and the elevator syndrome and urethral
syndrome. Present common facets included pain in the territory of the pudendal nerve. They are not frequent and more affect women than men (in a ratio of 7 to 3).

Anticipate that when these pains occur they significantly degrade the quality of life of the patients. Many times, as a result of the lack of response to a particular treatment, giving way to an authentic pilgrimage to physicians who are trying to solve the problem without success. There are patients who have had pain for years and have consumed a true arsenal of medications without obtaining relief. The contribution of physiotherapy (including intra-rectal massages) and the appeal of other conservative treatments are unsuccessful in the majority of cases. Treatment with dry-needling, local infiltration with lidocaine or Botox, have only been effective in some patients. In a great number of patients, it is possible to identify causes that can be myofascial dysfunction, visceral-somatic interaction, cystitis or recurrent vaginitis, endometriosis, or certain types of uterine leiomyomas if it’s women.

Aside from that set of annoyances that produce pudendal neuralgia, it is essential to distinguish the pudendal nerve entrapment syndrome. What differentiates this syndrome, recognized in recent years as an entity with anatomic substrate, is that you have to resort to the decompressive surgery. The clinical manifestation of greater relevance is a neuropathic pain of genital and perineal area. It was first described by the French neurologist Gérard Amarenco and colleagues in 1987. Today there are a set of guidelines known as “Criteria of Nantes”, where there is no defining clinical signs, although there are some additional tests that help determine the site of entrapment (mainly the Doppler Ultrasound). There are neurophysiological explorations that have made it easier to understand the nature of the process in some cases, but only should be
considered as complementary without confirmatory value of diagnosis of pudendal neuralgia. On the other hand, there are surgical techniques to confirm the site of entrapment and release the nerve in the segment or committed site.

From published by the Group of Nantes in France and with the knowledge and experience of other groups, have been consolidating the five criteria that are considered essential and must therefore be present to decide an entrapment or compression of the pudendal nerve. These are:

I.- Pain in the territory of the pudendal nerve, mainly involving the perineum, anus, penis or clitoris.
II.- The pain is accentuated in sitting position.
III.- Pain does not wake up the patient during his night sleep.
IV.- Pain not associated with a sensory deficit in perineum superficial, as in the roots of the sacral Plexus or the cauda equina lesions.
V.- Positivity diagnosis infiltrating the pudendal nerve block with anesthetic. The negativity of the blockade does not exclude the diagnosis if the injection is not sufficiently precise or when done too distally. Guided techniques (with TAC or neurostimulation) have only one minor impact on the interpretation of the result of the blockade.

Complementary diagnostic criteria are as follows:

a.- The worsening of pain as the day progresses, reaching a peak in the evening before sleep. This is considered to be an important feature in the profile of pudendal neuralgia.

b.- Neuropathic pain is described as a feeling of burn, sudden trigger or stabbing pain and sometimes associated with numbness.

c.- Alldynia or hyperpathia are expressed as unrest in contact with the undergarment or intolerance to contact vulvar (cursory dyspareunia).

d.- There are patients who refer the sensation of rectal or vaginal foreign body (simpatalgia). This symptom is qualified in some cases incorrectly as the anus elevator syndrome.
e.- When perineal pain is predominantly unilateral it is more attributable to a commitment from the trunk of the pudendal on that side.

f.- The emergence of pain associated with defecation, usually happens after several minutes or up to an hour.

g.- Pain on palpation of the ischial spine. It merges with the real Tinel sign, but in these cases there is no perception of distal pain as in the case of the true Tinel.

Signs associated with the margin of the diagnosis:

h.- Gluteal sitting pain.
i.- Radiating with characteristics of a sciatica pain.
j.- Referred pain to the inside of the thigh.
k.- Suprapubic pain.
l.- Disorders of the urinary stream or a full bladder pain.
m.- Pain after ejaculation.
n.- Dyspareunia or pain after a while after intercourse.
o.- Erectile dysfunction.

Sites in which the pudendal nerve injury is located are:
- Bone, soft tissues, or tunnels fibro-osseous
- Sites in which the nervous system branches.
- Places where the system is relatively attached to neighboring structures.
- Areas close to underlying interfaces harsh or inflexible.

Access routes to the surgical treatment

**Perineal approach** (Ahmad Shakif). Through a perineal incision is accessed Alcock canal and the nerve is released digitally. Scissors can be used to open the fascia between the Sacro-spinous and the sacrotuberous ligaments.

**Transgluteal approach** (Robert). Is accessed through an incision of the gluteal muscles, reaching the sacrotuberous ligament, releasing its relationship with muscles and then sectioning the Sacro-spinous ligament to resolve any
compression linked to ischial spine. Then explores Alcock duct and peripudendal tissue is released.

**Trans-ischiorectal approach** (Eric Bautrant). You can access the ischio-rectal Fossa through a transverse incision of the perineum in men and through vagina in women. The Sacro-spinous ligament is partially sectioned, if this is the case and is digitally scanned Alcock’s canal and tissue interposed between the fascia and the nerve is released. It can not access the sacrotuberous ligament.

**Laparoscopic approach** (Possover) Three small incisions are required and the aim is to minimise the distortion of the pelvic structures. Focused on segment proximal and media nerve. The sacrospinous ligament is transected allowing visualization of the nerve in the ischial spine and Alcock canal. If the case, fibrous adhesions or varicose veins are released. Allows neurolysis of the sacral plexus.

**Dorsal approach** (Hubry) Originally designed for cases with entrapment distal to the urogenital diaphragm at the level of the dorsal branch of the pudendal nerve. The method and its variants are in test phase.

**Postoperative expectations.**

The existence of various routes of access indicates that the subject is not at all clear. It may be due to individual peculiarities and the variability of the location, extent and nature of the process that causes entrapment. Recovery from surgical trauma must be added while taking the nerve repair. Each group recommended schemas different recovery after surgery. Are based on avoiding infection, in the progressive movement (walking, sitting down using a protective contraption, dive or swim with caution) and undergo a physiatric recovery program which depends on the availability of each person. Recovery is slow, step by step. It usually takes months and the group that has greater experience is Bautrant in Aix in Provence (more than 600 cases).

**CONCLUSION**

The diagnosis of neuralgia of the pudendal due to an entrapment or compression of the pudendal nerve, is essentially clinical. There is no
unambiguous criteria, but what doubt is that the Association of certain clinical features are suggestive of the diagnosis.

The four diagnostic criteria to consider are the following:
- Pain in territory of the pudendal nerve, which worsens when sitting;
- The absence of alterations of sleep because of the pain;
- The absence of objective sensory loss;
- The positive locking of the pudendal nerve.

They constitute a set of highly suggestive elements. The valuation of other complementary and associated findings (previously considered), are helpful for clinical diagnosis and often oriented on the site of compression. It has demonstrated the value of Doppler Ultrasound in a considerable number of cases.

The treatment is surgical and access roads for the surgical liberation of entrapment are varied. The important thing is that the choice is based on the experience of the surgical group.

Note that the pudendal nerve entrapment as entity is not well known and should be included in the differential diagnosis of the of the pudendal neuralgia. The perception is that much remains to be done in the disclosure of its existence and to publicize the centres which can be used for proper treatment.

**Preliminary note**

This review is motivated by the suffering of a very close family, who resided in Madrid, endured discomfort of pelvic floor for almost a year, causing him intense pain during a large part of every day and significant limitations in his usual dynamics. He was treated by several specialists without any substantial improvement and moved to Costa Rica, continued for months being studied with the use of different techniques and tested, to various therapies with limited results. At the end of the first quarter of 2013 the patient, based on readings taken on the matter, raised the possibility of an entrapment of the pudendal nerve. The efforts to achieve a definitive diagnosis took us to a professional in Aix in Provence (France), Dr. Eric Bautrant, outstanding specialist who studied him and treated surgically. On his return to Costa Rica, met the sixth post-operative month, has been recovering step by step and he is already working.

I intend to disclose a little known entity with few centers of reference in the Western world. This writing is the product of an updated revision based on various publications, mostly in English, and addresses the issue summarily.
RECOMMENDED READING


WEBS

- Society for Pudendal Neuralgia (SPUN)
  

- Health Organization for Pudendal Education
  
  [http://www.pudendalhope.info/](http://www.pudendalhope.info/)

- The Pudendal Nerve
  
Neuralgia del Nervio Pudendo

http://www.neuralgiadelpudendo.info/index.html