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[Concerns about the use of colour doppler in the diagnosis of pudendal nerve entrapment.](#)

Beco J, Mouchel J, Mouchel T, Spinosa JP.

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Letter to the Editors of Pain:

About the paper:

Mollo M, Bautrant E, Rossi-Seignert AK, Collet S, Boyer R, Thiers-Bautrant D: **Evaluation of diagnostic accuracy of Color Duplex Scanning, compared to electroneuromyography, diagnostic score and surgical outcomes, in Pudendal Neuralgia by entrapment: A prospective study on 96 patients.** *Pain* 2009.

Jacques Beco M.D.(1) , Jack Mouchel M.D.(2), Thomas Mouchel M.D.(2), Jean-Pierre Spinosa M.D.(3)

(1) Department of Gynecology, Liège University, Rue de Gaillarmont 600, 4032-Chênée and CHC Clinique Sainte Elisabeth, rue du Naimeux, 4802-Heusy, Belgium.

(2) Clinique du Tertre Rouge, 7100 Le Mans, France

(3) Department of anatomy, Faculty of Medicine, Lausanne, Switzerland

Dear Editors,

We have read carefully the paper from Mollo M, Bautrant E, Rossi-Seignert AK, Collet S, Boyer R, Thiers-Bautrant D and entitled **“Evaluation of diagnostic accuracy of Color Duplex Scanning, compared to electroneuromyography, diagnostic score and surgical outcomes, in Pudendal Neuralgia by entrapment: A prospective study on 96 patients”** published in the last issue of your journal.

The authors concluded on the great interest of “color duplex scanning” (CDS) in the diagnosis of “pudendal nerve entrapment” (PNE). Because PNE is still a quite new issue in medicine and because patients who suffer from this very disabling condition need clear information, each new step in the diagnosis and in the management of this disease must be studied carefully before introducing it in our practice. We have some important concerns about this publication.

The first one is the **absence of a real control group**. In fact the authors used patients with perineal or pelvi-perineal pain as controls. A real control group must consist only of patients without any symptoms of pudendal neuropathy [1, 2]. Pudendal nerve entrapment (PNE) can induce urge incontinence, anal incontinence and many other symptoms with or without pain [3-6]. Without a real control group the

authors are not allowed to talk about sensibility, specificity or predictive values and to conclude about the effectiveness of their method.

The second concern is about **the reference score** used by the authors to classify the patients in two groups. This score, called complete “neurological criteria” (NC), includes a “diagnostic score” (DS) and electroneuromyography (ENMG) of the perineum. The DS has not been validated by the authors in their reference [7] or by another staff. Furthermore, no data are available (value of DS and ENMG results).

The third concern is about **the CDS method** itself. The exact position of the two spots of measurement used to calculate the “pudendal artery ratio” (PAR) was not defined. On the figure 2, the authors described the difference in “peak systolic velocity” (PSV) and “systolic ascension time” (AT) before and after the pudendal canal. These measurements were done through the vaginal route (see the top of figure 2a and 2b of the publication). By this approach it is impossible to reach the pudendal artery over the sacro-spinal ligament and the ischial spine and therefore to evaluate the effect of the “clamp” between the sacro-spinal and sacro-tuberous ligament on the artery.

The fourth concern is about **the so-called “trans-ischio-rectal procedure”**. The name of this procedure is wrong because the authors use a transvaginal and therefore para-rectal approach (like a sacrospinous fixation) to reach the pudendal nerves. They don't go through the ischio-rectal fossa. The only real “trans-ischio-rectal” approach has been described by Shafik in 1991 [8].

The last concern is about the figures 1 and 3 of the publication. In these figures, **the levator plate has been removed**. This wrong representation of anatomy can induce confusion as it would wrongly seem very simple to reach the nerve by this way which is not the case. During this procedure the section of the sacro-spinal ligament can cut accidentally the pudendal nerve or one of its branches [9, 10]. To reach the Alcock's canal, the levator plate must be incised and even in this case the nerve is never under visual or finger control. Furthermore, during the section of the sacro-spinal ligament and section - retraction of the levator plate, the nerve of the levator ani can be damaged (Figure 1 and 2) [11]. This injury can induce a descending perineum syndrome with its consequences [12].

Yours faithfully,

Jacques Beco M.D., Jack Mouchel M.D., Thomas Mouchel M.D., Jean-Pierre Spinosa M.D.

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Figures and legends:

Figure 1.

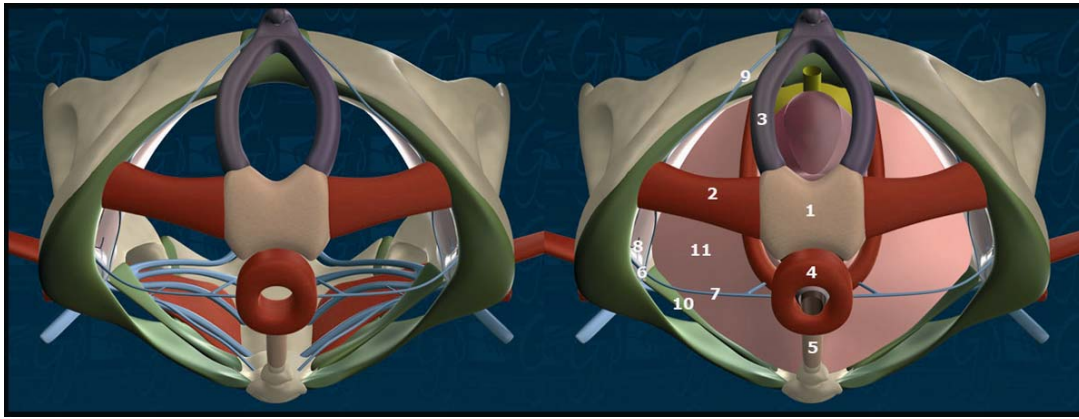


Superior and lateral view without and with levator plate

To reach the Alcock's canal and the pudendal nerve through the vagina (procedure erroneously called "trans-ischiorectal ") the levator plate must be cut or severely retract. The pudendal nerve and its branches and the levator ani nerve are never under control with a risk of damage (From Mouchel T, Mouchel F: Basic anatomic features in perineology. Pelviperineology 2008, 27(4):156-159. with authorization)

1. Perineal body
2. Transverse muscle
3. Bulbocavernous muscle and corpus cavernous
4. Sub-cutaneous external anal sphincter
5. Ano-coccygeus ligament
6. Pudendal nerve in the Alcock's or pudendal canal
7. Rectal branches
8. Perineal branches
9. Nerve of the clitoris
10. Sacro-spinal ligament
11. Levator plate
12. Levator ani nerve

Figure 2



View from below without (like in the figures 1 and 3 of the article of Mollo and coll.) and with levator plate

In the view without levator plate it seems easy to reach the Alcock's canal by the vaginal route, which is not the reality because the vagina goes rapidly above the levator plate and the Alcock's canal is situated below this muscular plate.

1. Perineal body
2. Transverse muscle
3. Bulbocavernosus muscle and corpus cavernosus
4. Sub-cutaneous external anal sphincter
5. Ano-coccygeus ligament
6. Pudendal nerve in the Alcock's or pudendal canal
7. Rectal branches
8. Perineal branches
9. Nerve of the clitoris
10. Sacro-spinal ligament
11. Levator plate.