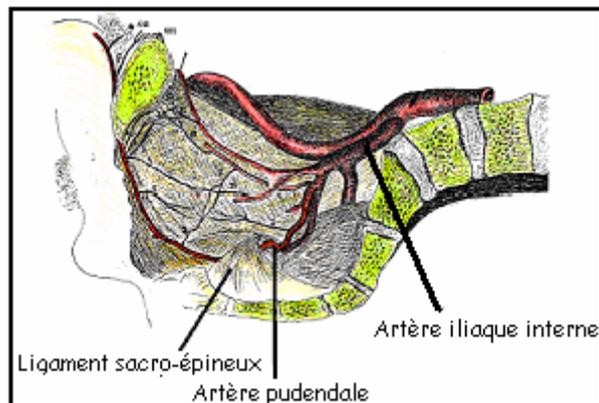


Preliminary study on Doppler ultrasonography of internal Pudendal Vessels in pudendal neuralgia

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The internal pudendal vessels accompany the pudendal nerve upward and forward along the lateral wall of the ischiorectal fossa, being contained in a sheath of the obturator fascia termed the pudendal canal.



If there is any entrapment, the velocity of the pudendal artery and veins can be modified. We can also see abnormalities of their morphology.

Patients and methods :

The studied population comprises 115 patients with pudendal neuralgia symptomatology from June 2006 to February 2007.

We measured the diameter of artery above the ischiatic spine, in the ischiorectal fossa and before it gives its branches [perineal and the dorsal artery of the (clitoris or penis)].

We measured Systolic Flow Velocity and Pulsatility Index on the different portion of the artery, and we noted the flow in the veins.

The measures were done on both sides.

Results :

All of them have the diameter of the artery above the ischiatic spine between 2,5mm and 3,7mm.

The diameter tends to decrease inside the ischiorectal fossa, between 1,5mm and 3mm in the pudendal canal .

For most of them it is possible to follow the artery completely.

Control side (safe):

Pudendal artery **mean systolic flow velocity:**

- between 35 to 45 cm/s above the ischiatic spine
- between 28 cm/s to 38 cm/s in the first part of the ischiorectal fossa
- between 25 to 32 cm/s at the end of the common trunk.

A normal pudendal vein has low velocity and has a heart beat periodicity (proximal vein)

Pathological side (pain):

The side where the entrapment happened shows increased systolic flow velocity above the entrapment and decreased arterial velocity after; veins dilatation with increasing pressure without any periodicity.

For our 115 patients, we noted:

32% (37patients) with systolic velocity less than 20 cm/s at the end of the arterial common trunk on the **right side** (normal = between 25 and 32 cm/sec).

44% (50 patients) with systolic velocity less than 20 cm/s at the end of the arterial common trunk on the **left side**.

24% (28 patients) had **both side** with systolic velocity less than 20 cm/s at the end of the arterial common trunk.

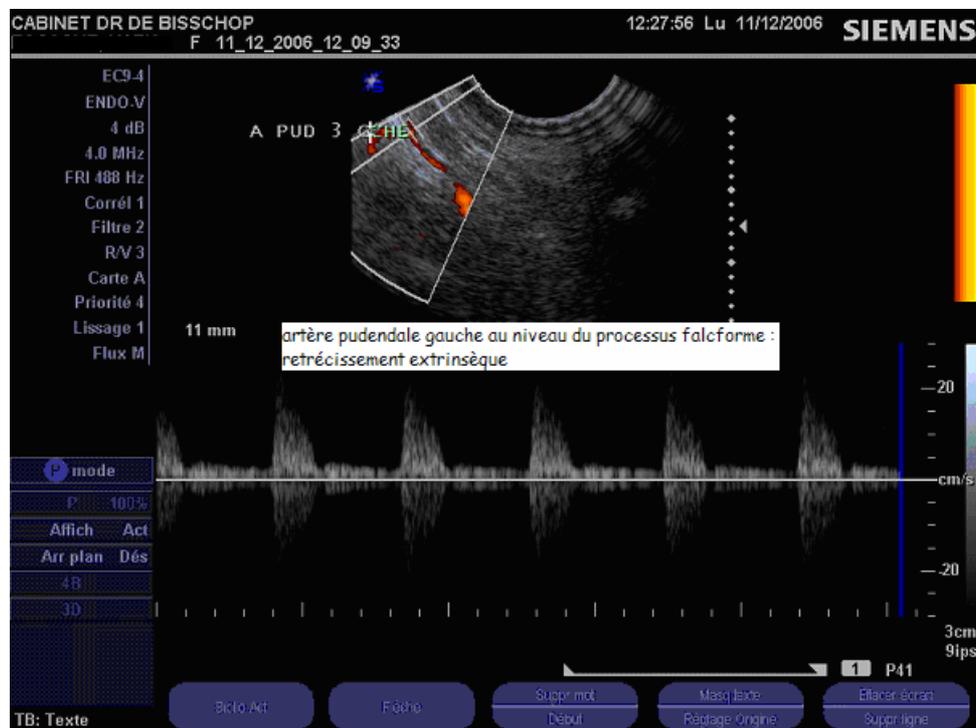
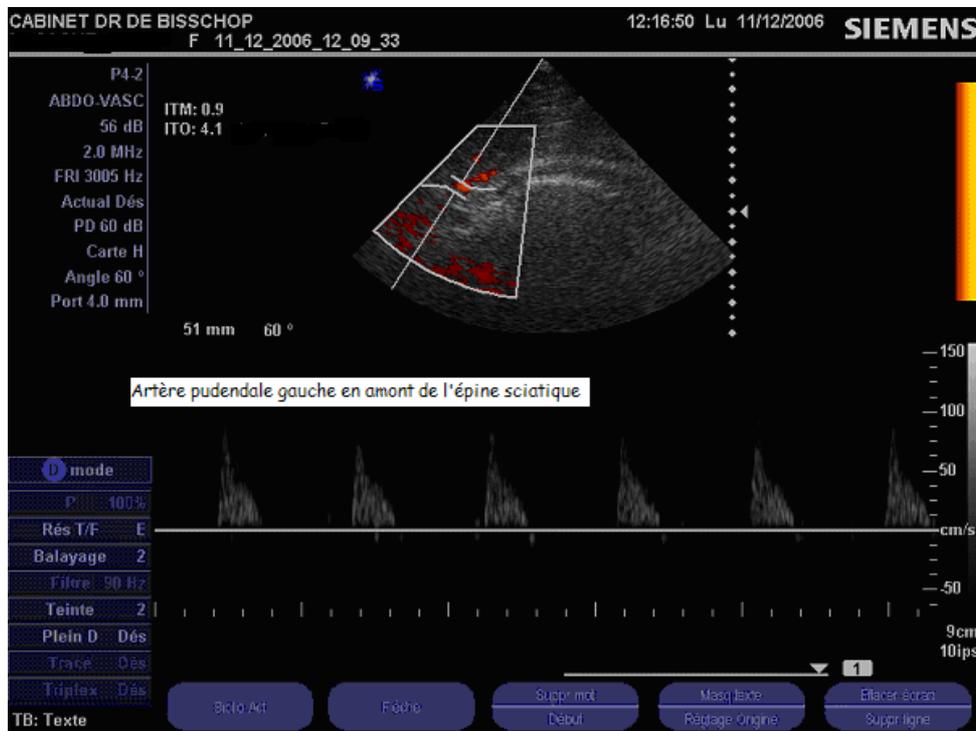
52% (61 patients) had veins dilatations with increasing pressure in the ischiorectal fossa (**both side**).

6% (7 patients) had veins dilatations with increasing pressure in the ischiorectal fossa on the **left side** only.

2% (2 patients) had veins dilatations with increasing pressure in the ischiorectal fossa on the **right side**.

At least most of the patient with Pudendal neuralgia symptomatology had hemodynamic disturbance: 76% with less arterial velocity on the distality of the internal pudendal common trunk and 60% with pelvic venous dilatations.

These lesions can cause a microcirculatory hypoxemia of the pudendal nerve which affects its functional capacities and renders it more susceptible to injury, compression and mechanical conflicts.



This test is non invasive and painless, requires no radiation, can be repeated regularly and can reveal other causes for symptoms. However, it is technically

demanding and requires a skilled, experienced operator to obtain the most accurate results.