

Transperineal pudendal nerve decompression (PND) with opening of the fascia linking the sacro-spinal and the sacro-tuberous ligament

Feasibility study and first results in perineology



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Aims of the study

- ❖ Perineodynia (vulvodynia, perineal pain, proctalgia), anal and urinary incontinence (and impotence in the male) are the main symptoms of the pudendal canal syndrome (PCS) or entrapment of the pudendal nerve
- ❖ As described in the literature (1,2,3), the classical transperineal pudendal nerve decompression (PND) only opens the Alcock's canal. Entrapment of the nerve can occur in the "clamp" between the sacro-spinal and the sacro-tuberous ligament. The transgluteal (4) and transischio-rectal (5) procedures cut (at least partly) one or the two ligaments to open this "clamp"
- ❖ The aims of this study were to evaluate the feasibility to open the "clamp" by the perineal approach without cutting the ligaments and to evaluate the effect of this procedure on the PCS.

Conclusions

- ☞ This study confirms the feasibility of a complete transperineal PND through a small para-anal incision
- ☞ We didn't find a real clamp between the two ligaments but rather a strong fascia linking them
- ☞ This procedure can treat the 3 main symptoms of the PCS without significant side effects. It represents one of the 7 basic "defect specific" procedures used in Perineology (6)
- ☞ A randomized controlled trial should be done to prove the interest of opening the fascia between the two ligaments in addition to the classical opening of the Alcock's canal

Materials & Methods

- ❖ The studied population comprised 34 patients (31 women, 3 men; mean age: 54 years, extremes 34-77) suffering from a PCS confirmed by EMG and/or clinical examination. 27 patients were operated on both sides. The complete transperineal PND was an isolated procedure in 14 patients. The mean follow-up was 11 months (extremes 1-29 months, 11 patients less than 12 months).

- ❖ After the classical opening of the Alcock's canal described by Shafik, the surgical procedure consists in introducing the tip of scissors under index control between the sacro-spinal and the sacro-tuberous ligaments by perforating the fascia linking these ligaments. The hole in this fascia was enlarged until a broad opening between the two ligaments (allowing the easy passage of the index in the abdomen) was obtained.

Results

- ❖ A large opening of the "clamp" was obtained in all the patients without significant bleeding
- ❖ When the complete transperineal PND was the only procedure done to treat the symptoms, the cure rates of perineodynia, anal incontinence and urinary incontinence were respectively 6/12 (improvement in 5/12, failure 1/12), 2/4 (failure 2/4) and 5/11 (improvement 2/11; failure 4/11)

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Complete transperineal PND - Effect on the symptoms (n=34) - Mean follow-up 11 months

Parameters	Pain		Anal Inc.		SUI		Urge Inc.	
	All	Isolated	All	Isolated	All	Isolated	All	Isolated
Number of cases	27	12	15	4	19	5	19	6
Cured	12 44.4%	6 50%	8 53.3%	2 50%	14 73.7%	2 40%	9 47.3%	3 50%
Improved	9 33.3%	5 41.6%	1 6.6%	0 -	1 5.3%	1 20%	6 31.5%	1 16.6%
No change	6 22.2%	1 8.3%	6 40%	2 50%	3 15.8%	2 40%	3 15.8%	2 33.3%
Worse	0 -	0 -	3 de novo 2gas, 1liquid	0 -	1 5.3%	0 -	1 5.2%	0 -

Isolated: PND only ; All: PND with other surgical procedures ; SUI: stress urinary incontinence

Figure 1: Right skin incision between anus and ischial tuberosity (4cm)



The inferior rectal nerve is hooked under the finger and followed to the entrance of the Alcock's canal

Figure 2: Right ischio-rectal fossa



Dissection done on a female fresh frozen cadaver. Inferior rectal nerve (NRI) showing the entrance (A) of the Alcock's canal (CA) which will be open (Image from *BMC Surgery* 2004, 4(1):15)

Figure 3: After opening of the fascia linking the sacro-spinal and the sacro-tuberous ligament



Right ischio-rectal fossa. Dissection done on a female fresh frozen cadaver. Clitoridal nerve (NC) leaving the pudendal nerve (NP) just under the sacro-spinal ligament (SS). The pudendal nerve is under the clitoridal nerve and cross the falciform process of the sacro-tuberous ligament (PF). The space between the 2 ligaments is quite large and enables the easy passage of the finger. NT = transverse muscle branch.

Figure 4: Exit point of the finger in the abdomen (arrow)



USD = right utero-sacral ligament
V = vagina
D = Douglas pouch

Materials and methods:

One hundred consecutive MSU's (conventional collection technique) from the antenatal (ANC) and gynaecology (GOPD) clinics were analysed retrospectively to determine a background contamination rate. A further 100 samples were collected prospectively with the Whiz UCD from each cohort. Women filled in an anonymous questionnaire to determine spillage rates, ease of use and preference for future use. Period reviewed was April–December 2005. Ethical approval was not required as this was part of an audit programme of clinical practice.

Results:

(Conventional collection technique vs. Whiz UCD). The age range of women using the device was 17–41 and 20–79 years in the antenatal and gynaecology clinic patients, respectively. There was a reduction in contamination rates (45 vs. 39%—ANC; 35 vs. 51%—GOPD) with a corresponding increase in UTI rates (3 vs. 5%—ANC; 15 vs. 15%—GOPD) in the antenatal clinic population but the converse was true in the gynaecology patients. The questionnaire survey revealed a lower spillage (36 vs. 44%), difficulty in usage (14 vs. 17%) and higher preference rates (79 vs. 66%) in the antenatal clinic population compared with the gynaecology clinic patients.

Conclusions:

The Whiz UCD reduces contamination rates and increases the possibility of a definite diagnosis of UTI's only in the asymptomatic obstetric population. This could be due to patient characteristics including age; dexterity and presenting symptomatology in the gynaecology population. It can lead to substantial cost savings, as less number of patients need to be retested. This audit has led to the introduction of this device in our clinical practice in the antenatal clinic but not in the gynaecology clinics.

Disclosure: Was this work supported by industry? No.

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THE TRANSOBTURATORIC TAPE PROCEDURE FOR FEMALE STRESS URINARY INCONTINENCE

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Objective: To evaluate the efficacy and safety of the Transobturator Tape (TOT) procedure as a treatment for female stress urinary incontinence (SUI).

Materials and methods: We studied retrospectively 214 patients (64.0% with SUI and 33.6% with mixed incontinence) who underwent TOT between May 2003 and December 2004. Ninety percent underwent Monarc (outside-in) and 10% TVT-O (inside-out) operation. The mean age was 59 years, parity 2.17 and BMI 27.4. Fifty-nine

percent of the women had undergone prior gynecological and 15% prior incontinence surgery. Forty percent underwent concomitant surgery. The procedure was performed under spinal (51%), general (43%) or local (6%) anaesthesia. **Results:** The mean operation time was 21 min. There were two urethral perforations (1.1%). The most common complication was vaginal perforation (11.2%), in which the TOT-needle perforated the vaginal skin. Neither heavy bleeding nor postoperatively hematomas were reported. There were no bladder, vascular or bowel perforations. Eighty-seven percent discharged at the latest on the first postoperative day. Subjective outcome was assessed with two questionnaires: at a mean of 13.2 and 19.6 months after the operation. The first assessment of outcome included patients who were not followed up at the institution or who had over a year from the operation. Seventy-five percent (119/159) of these patients answered the questionnaires which included subjective evaluation of continence. There were 86.5% of these patients who were completely cured or they reported significant improvement of the continence. Of the patients, 92.9% with genuine SUI and 69.6% with mixed incontinence were completely cured or markedly improved. In a second assessment of outcome we sent a self-evaluation by questionnaires to all participating patients. The response rate was 83.4% (176/ 211) and 86.2% reported significant improvement. Of the patients, 91.5% with genuine SUI and 76.2% with mixed incontinence were cured or improved significantly. De novo urgency was reported by 10.7% at a mean of 13.2 months and 9.4% at a mean of 19.6 months and occasional voiding disorders by 12.7 and 4.2%, respectively. Five patients were re-operated for recurrence during the follow-up of 112 years.

Conclusions: The incontinence operations through trans-obturatoric route are safe and effective treatments especially for patients with pure SUI. The rate of continence did not diminish during this 112 years follow-up time and the continence seemed to be even better among patients with mixed urinary incontinence at the end of this follow-up time.

Disclosure: Was this work supported by industry? No.

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TRANSPERINEAL PUDENDAL NERVE DECOMPRESSION WITH OPENING OF THE FASCIA LINKING THE SACRO-SPINAL AND THE SACRO-TUBEROUS LIGAMENT. FEASIBILITY STUDY AND FIRST RESULTS IN PERINEOLOGY

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Background Perineodynia (vulvodynia, perineal pain, proctalgia), anal and urinary incontinence are the main symptoms of the pudendal canal syndrome (PCS) or entrapment of the pudendal nerve (PN). As described in the literature, the classical transperineal pudendal nerve decompression only opens the Alcock's canal. Entrapment of the nerve can occur in the "clamp" between the sacro-spinal and the sacro-tuberous ligament. The transgluteal and transischio-rectal procedures cut (at least partly) one or the two ligaments to open this "clamp". The aims of this study was to evaluate the feasibility to open the "clamp" by the perineal approach without cutting the ligaments and to evaluate the effect of this procedure on the PCS.

Materials and methods The studied population comprise 34 patients (31 women, 3 men; mean age: 54 years, extremes 34–77) suffering from a PCS confirmed by EMG and/or clinical examination. The complete transperineal PND was an isolated procedure in 14 patients. The mean follow-up was 11 months (extremes 1–29 months, 11 patients less than 12 months). After the classical opening of the Alcock's canal described by Shafik, the surgical procedure consists in introducing the tip of scissors under index control between the sacro-spinal and the sacro-tuberous ligaments by perforating the fascia linking these ligaments. The hole in this fascia was enlarged until a broad opening between the two ligaments (allowing the easy passage of the index in the abdomen) was obtained.

Results A large opening of the "clamp" was obtained in all the patients without significant bleeding. When the complete transperineal PND was the only procedure done to treat the symptoms, the cure rates of perineodynia, anal incontinence and urinary incontinence were, respectively, 6/12 (improvement in 5/12, failure 1/12), 2/4 (failure 2/4) and 5/11 (improvement 2/11; failure 4/11).

Conclusion This study confirms the feasibility of a complete transperineal PND through a small para-anal incision. In our study we didn't find a real clamp between the two ligaments but rather a strong fascia linking them. This procedure can treat the three main symptoms of the PCS without significant side effects. A RCT should be done to prove the interest of opening the "clamp" between the two ligaments in addition to the classical opening of the Alcock's canal.

Disclosure: Was this work supported by industry? No.

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TRANSVAGINAL PELVIC SONOGRAPHY FOR THE DIAGNOSIS OF VAGINAL AND UTERINE FISTULAS

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BACKGROUND: The role of transvaginal pelvic sonography and color Doppler for the diagnosis of vaginal and uterine fistulas has not yet been clearly defined.

OBJECTIVE: To assess the feasibility and diagnostic criteria for vaginal and uterine fistulas using transvaginal pelvic sonography and color Doppler.

MATERIALS AND METHODS: We report on nine consecutive cases of vaginal and uterine fistulas (four rectovaginal, three vesicovaginal and two vesicouterine) diagnosed by transvaginal pelvic ultrasound and color Doppler between January 1996 and February 2006.

RESULTS: Diagnosis and localization of the fistulas were performed sonographically and confirmed using standard physical, rentgenographic and/or cystoscopic techniques. Six cases were treated surgically, two were treated conservatively, and one is still awaiting surgery. All treated cases were successful (Table 1). Sonographic criteria for vesicovaginal fistulas included: (1) Delineating a defect in the bladder and vaginal walls (2) Demonstrating passage of urine through the fistula tract (jet phenomenon) using colored Doppler with back flow (from the vagina back to the bladder) upon mechanical compression of the transducer. Criteria for rectovaginal fistulas included a defect in the rectal wall, and visualization of air bubbles passing through the fistula tract.

CONCLUSIONS: Transvaginal pelvic sonography seems to be a readily available, cost-effective and reliable technique for the diagnosis of vaginal and uterine fistulas. It is less invasive than cystoscopy and requires no radiation exposure. Sonographic criteria include a defect in the bladder or rectum and passage of urine or air bubbles through the fistula tract (jet phenomenon). Utilization of color Doppler and demonstration of back flow upon mechanical compression of the transducer may add to the accuracy of this modality.

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TRT (REMEEX SYSTEM) FOR THE SURGICAL TREATMENT OF STRESS URINARY INCONTINENCE

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Objectives: Slings have been successfully used in the treatment of female stress urinary incontinence (SUI); however, in many situations the sling may have either an excess or lack of tension producing voiding difficulties or urinary leakage persistency. In 2000 we included a readjustable system (Remeex System) in our surgical protocol A entirely new concept in the treatment of female stress urinary incontinence specially in patients where we need to increase the urethral resistance and still maintain adequate voiding function. The aim of this study was the