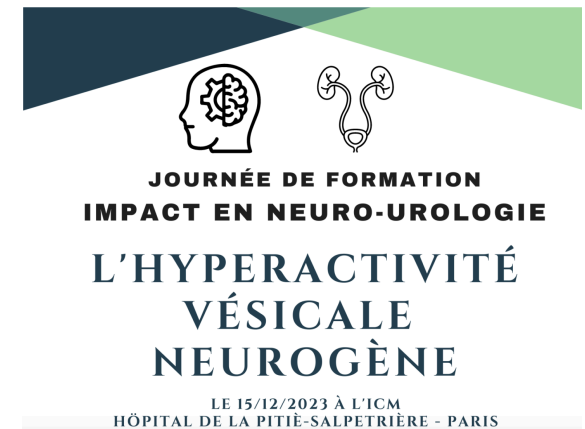


Hyperactivité vésicale chez le parkinsonien

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15/12/2023



TVS et Maladie de Parkinson Idiopathique

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graph TD; A[TVS et Maladie de Parkinson Idiopathique] --> B[Altération inhibition Cortico sous corticale]; A --> C[Troubles bas appareil Non neuro];
```

Altération inhibition
Cortico sous corticale

dégénérescence dopaminergique

Troubles bas appareil
Non neuro

Troubles Vésico-sphinctériens

- **Fréquents**

- 27-87%

- 30% au début de la maladie/ 70% après 5 ans
- F° de l'évolution de la maladie et de l'âge

Augmentent avec le temps

Troubles Vésico-sphinctériens

• Fréquents

- 27-87%
 - 30% au début de la maladie/ 70% après 5 ans
 - F° de l'évolution de la maladie et de l'âge

• Syndrome d'Hyperactivité Vésicale

- Nycturie (60%)
- Urgenturie (33-54%)
- Pollakiurie (16-36%)
- Incontinence (25%) si maladie évoluée: tbles moteurs
- Symptomatologie mixte (20%)
 - Patho urologique associée

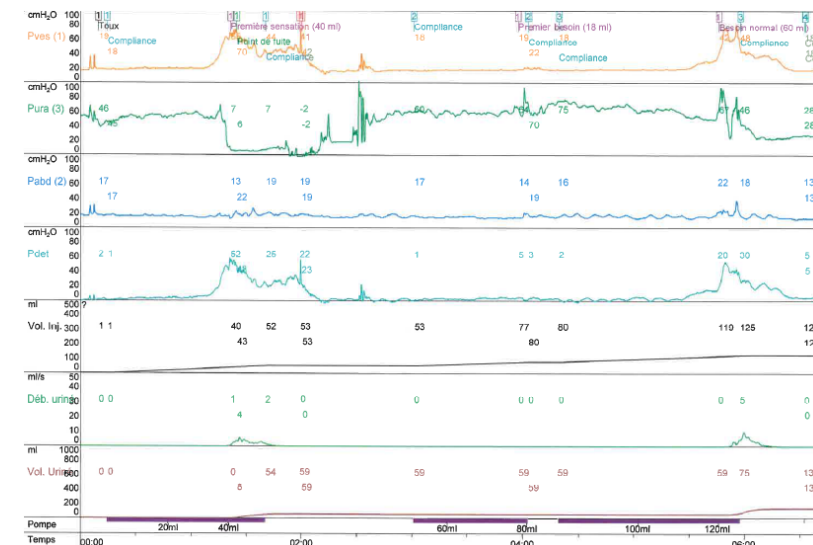
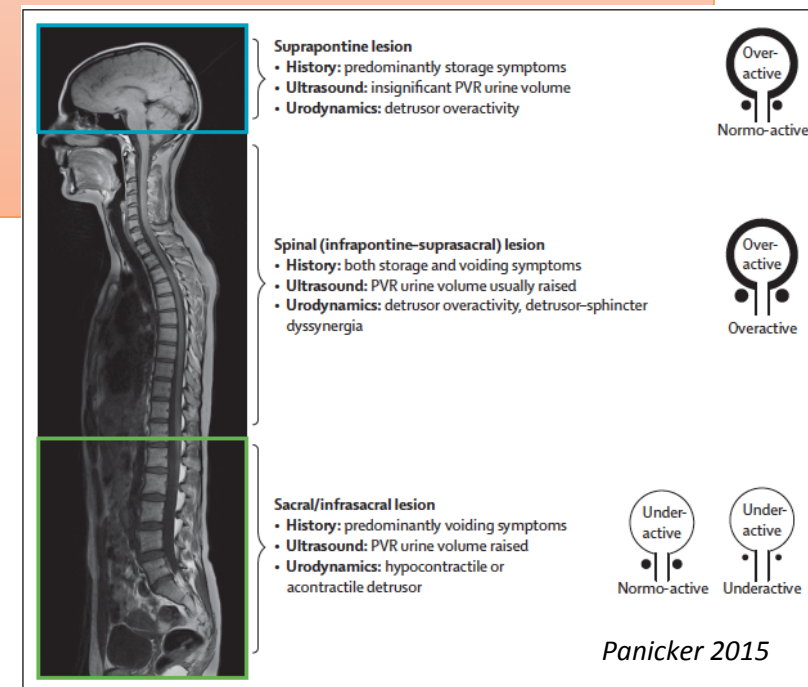


TABLE 1 Causes for nocturia in PD

Reduced Nocturnal Bladder Capacity	NP	Global Polyuria
<ul style="list-style-type: none">• Neurogenic detrusor overactivity and/or reduced compliance• Bladder hypersensitivity (sensory urgency)• Bladder outlet obstruction (most commonly benign prostate enlargement)• Other primary urological pathologies resulting in reduced functional bladder capacity (e.g., cystitis, bladder cancer)• Incomplete bladder emptying and raised PVR	<ul style="list-style-type: none">• Altered arginine vasopressin secretion• Congestive heart failure• Renal insufficiency• Excessive intake of fluid at night (especially alcohol and caffeine)• Use of long-acting diuretics• Sleep apnea	<ul style="list-style-type: none">• Pituitary diabetes insipidus• Nephrogenic diabetes insipidus I• Diabetes mellitus• Psychogenic polydipsia• Electrolyte abnormality: hypercalcemia, hypokalaemia



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Review article

Deep brain stimulation effects on lower urinary tract function: Systematic review and meta-analysis

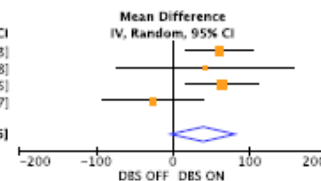
Elisa Jörg^{a,1}, Andrea M. Sartori^{a,b,1}, Anna-Sophie Hofer^{b,c}, Christian R. Baumann^d, Thomas M. Kessler^{a,*}

Stim Gpi, PPN, et STN : effet inhibiteur detrusor
Stim VIM : effet excitateur detrusor

A. First desire to void

Study or Subgroup	DBS ON			DBS OFF			Weight	Mean Difference IV, Random, 95% CI
	Mean	SD	Total	Mean	SD	Total		
Herzog 2006	140	65.1	11	78.9	36.6	11	34.0%	61.10 [16.97, 105.23]
Herzog 2008	166.6	132.1	9	124.4	120.2	9	10.3%	42.20 [-74.48, 158.88]
Seif 2004	199	57	9	135	43	9	32.5%	64.00 [17.35, 110.65]
Yamamoto 2018	108.2	57.3	13	134.7	106.36	13	23.2%	-26.50 [-92.17, 39.17]
Total (95% CI)	42			42			100.0%	39.77 [-1.81, 81.36]

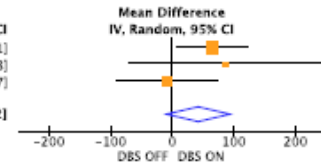
Heterogeneity: Tau² = 817.92; Chi² = 5.70, df = 3 (P = 0.13); I² = 47%
Test for overall effect: Z = 1.87 (P = 0.06)



B. Strong desire to void

Study or Subgroup	DBS ON			DBS OFF			Weight	Mean Difference IV, Random, 95% CI
	Mean	SD	Total	Mean	SD	Total		
Herzog 2006	199.5	72.1	11	135	64.6	11	57.1%	64.50 [7.29, 121.71]
Herzog 2008	286.7	178.8	9	200	159.6	9	10.1%	86.70 [-69.88, 243.28]
Yamamoto 2018	226.7	77.5	13	234.8	128.7	13	32.8%	-8.10 [-89.77, 73.57]
Total (95% CI)	33			33			100.0%	42.94 [-8.24, 94.12]

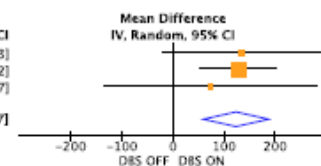
Heterogeneity: Tau² = 343.20; Chi² = 2.34, df = 2 (P = 0.31); I² = 15%
Test for overall effect: Z = 1.64 (P = 0.10)



C. Maximum bladder capacity

Study or Subgroup	DBS ON			DBS OFF			Weight	Mean Difference IV, Random, 95% CI
	Mean	SD	Total	Mean	SD	Total		
Finazzi-Agrò 2003	327.5	97.5	5	193.8	146.2	5	17.1%	133.70 [-20.33, 287.73]
Seif 2004	302	101	9	174	52	9	73.5%	128.00 [53.78, 202.22]
Shimizu 2007	177.2	161.2	6	104	203.4	6	9.4%	73.20 [-134.47, 280.87]
Total (95% CI)	20			20			100.0%	123.83 [60.18, 187.47]

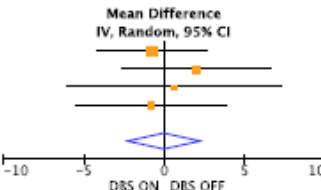
Heterogeneity: Tau² = 0.00; Chi² = 0.26, df = 2 (P = 0.88); I² = 0%
Test for overall effect: Z = 3.81 (P = 0.0001)



D. Maximum flow rate

Study or Subgroup	DBS ON			DBS OFF			Weight	Mean Difference IV, Random, 95% CI
	Mean	SD	Total	Mean	SD	Total		
Finazzi-Agrò 2003	11	2.5	5	11.8	3	5	42.5%	-0.80 [-4.22, 2.62]
Seif 2004	13	5	9	11	5	9	23.3%	2.00 [-2.62, 6.62]
Shimizu 2007	9.4	5.5	6	8.8	6.2	6	11.3%	0.60 [-6.03, 7.23]
Yamamoto 2018	7.57	5.1	13	8.4	6.9	13	22.9%	-0.83 [-5.49, 3.83]
Total (95% CI)	33			33			100.0%	0.00 [-2.23, 2.24]

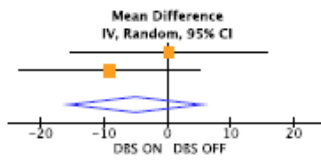
Heterogeneity: Tau² = 0.00; Chi² = 1.08, df = 3 (P = 0.78); I² = 0%
Test for overall effect: Z = 0.00 (P = 1.00)



E. Detrusor pressure during maximum flow rate

Study or Subgroup	DBS ON			DBS OFF			Weight	Mean Difference IV, Random, 95% CI
	Mean	SD	Total	Mean	SD	Total		
Finazzi-Agrò 2003	39.5	13.6	5	39.3	11.4	5	45.5%	0.20 [-15.35, 15.75]
Shimizu 2007	51.3	13.6	6	60.5	11.4	6	54.5%	-9.20 [-23.40, 5.00]
Total (95% CI)	11			11			100.0%	-4.93 [-15.41, 5.56]

Heterogeneity: Tau² = 0.00; Chi² = 0.77, df = 1 (P = 0.38); I² = 0%
Test for overall effect: Z = 0.92 (P = 0.36)



F. Post-void residual

Study or Subgroup	DBS ON			DBS OFF			Weight	Mean Difference IV, Random, 95% CI
	Mean	SD	Total	Mean	SD	Total		
Seif 2004	71	33	9	114	37	9	44.3%	-43.00 [-74.06, -11.94]
Shimizu 2007	31.2	92	5	45.2	86.1	5	14.2%	-14.00 [-114.82, 86.82]
Yamamoto 2018	42	51.6	13	28.5	39.7	13	41.5%	13.50 [-21.89, 48.89]
Total (95% CI)	30			28			100.0%	-15.42 [-59.33, 28.50]

Heterogeneity: Tau² = 883.10; Chi² = 5.54, df = 2 (P = 0.06); I² = 64%
Test for overall effect: Z = 0.69 (P = 0.49)

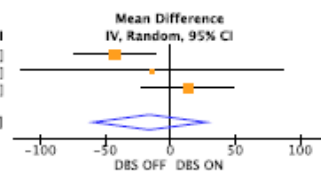
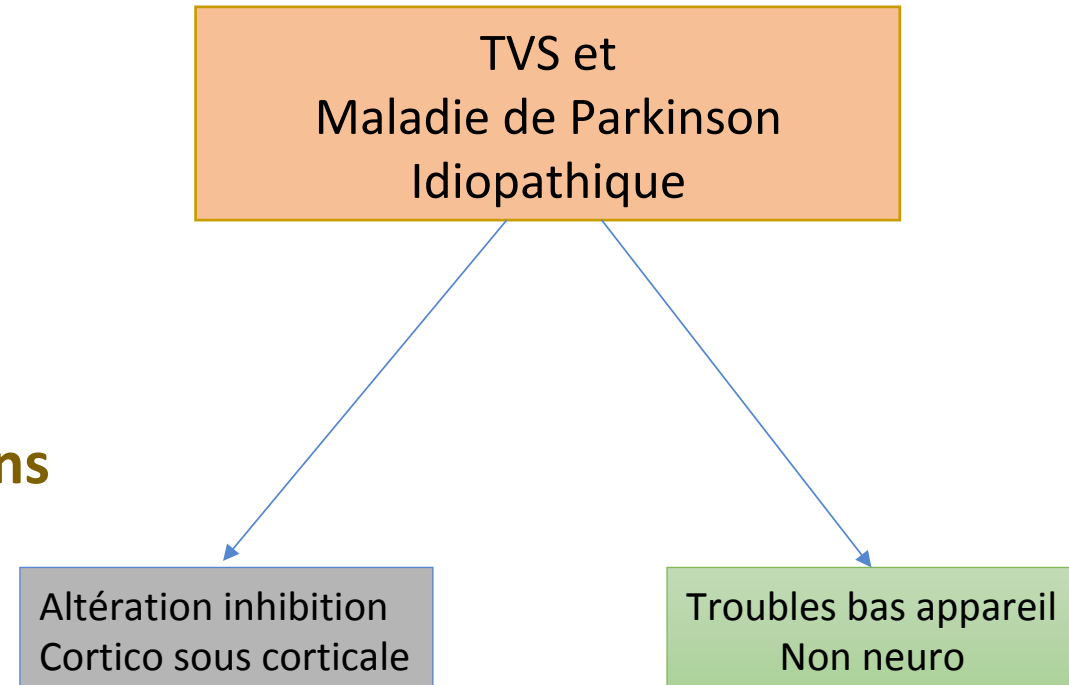


Fig. 2. Effects of deep brain stimulation of the subthalamic nucleus (STN) on urodynamic parameters in Parkinson's disease patients. A) Bladder volume at first desire to void (mL); B) Bladder volume at strong desire to void (mL); C) Maximum bladder capacity (mL); D) Maximum flow rate (mL/s); E) Detrusor pressure during maximum flow rate (cmH₂O); F) Post-void residual (mL). Data are shown as mean difference with 95% confidence interval. Positive values indicate an increase, negative values a decrease.

TVS & Maladie de Parkinson

- Sd d'hyperactivité vésicale fréquent
- **Les pièges:**
 - **les troubles périnéaux associés**
 - HBP
 - Trouble statique pelvienne
 - **Diagnostic différentiel des Sd Parkinsoniens**
- **L'objectif :**
 - améliorer la qualité de vie



Atrophie Multisystématisée

- **Physiopathologie**

- Dégénérescence des noyaux gris centraux & perte neuronale somatique et parasympathique sacrée

- **TVS précoces, parfois inauguraux**

- Associé à une dysfonction érectile fréquente (*Kirchhof 2003*) et des troubles ano-rectaux (*Bonnet et al 1997, Strocchi et al 1997*)

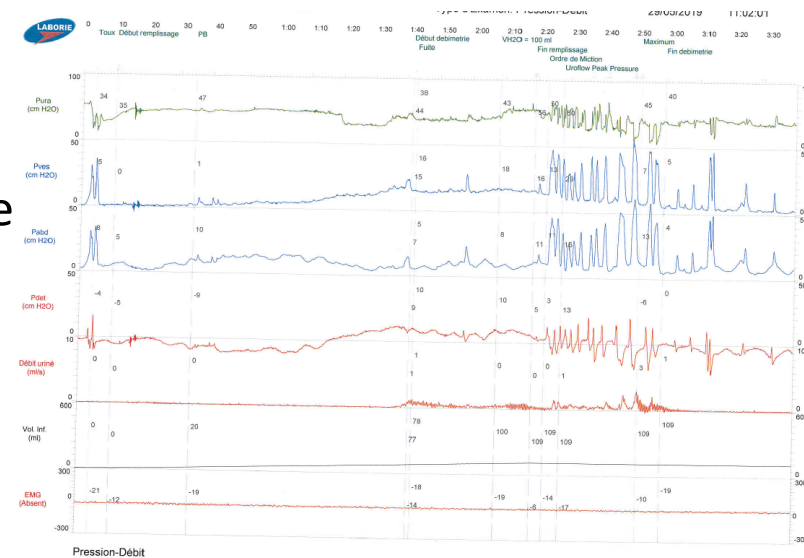
- Hypotonie anal avec défaut de commande et aréflexie (dénervation) (*Bonnet et al 1997, Strocchi et al 1997*)

TVS et AMS

- Physiopathologie
 - Dégénérescence des noyaux gris centraux & perte neuronale somatique et parasympathique sacrée
- Symptômes
 - Troubles de la vidange 33-73 %
 - Incontinence 44-77%
 - Présence d'un RPM
 - Infections urinaires
- Hyperactivité vésicale initialement
- Puis rapidement **syndrome de la phase de vidange** :
 - Dysurie (60 à 80% des patients) *(Phe et al 2013)*
 - Incontinence urinaire (effort ou regorgement >50%) *(Sakakibara et al 2001, Bonnet et al 1997)*
 - RPM fréquent *(Sakakibara 2001)*

Urodynamique et AMS

- Détrusor :
 - **Hypoactivité détrusorienne** (*Bonnet et al 1997*)
 - Fonctionnement mixte avec détrusor hyperactif, trouble de la compliance, et hypoactivité est possible
 - Hyperactivité détrusorienne dans 33% des cas
- *Sakakibara et al 2001* :
 - Résidu significatif dans 47% des cas
 - Dyssynergie dans 47% des cas
 - Ouverture du col ou relaxation du sphincter pendant remplissage
 - Dénervation à ENMG



HV chez le parkinsonien

- **Maladie de Parkinson**
 - Hyperactivité détrusorienne
- **Atrophie Multisystématisée**
 - Incontinence sur dénervation

