Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale?

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Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale…
chez l'enfant

Les enjeux

Traiter les pathologies fonctionnelles : énurésie

Protéger l'arbre urinaire en luttant contre les hautes pressions vésicales et lutter contre l'incontinence dans les pathologies neurologiques congénitales

Cahier des charges variable en fonction des populations

En cas d'énurésie à partir de quel âge?

En cas de vessie neurologique, quel traitement?

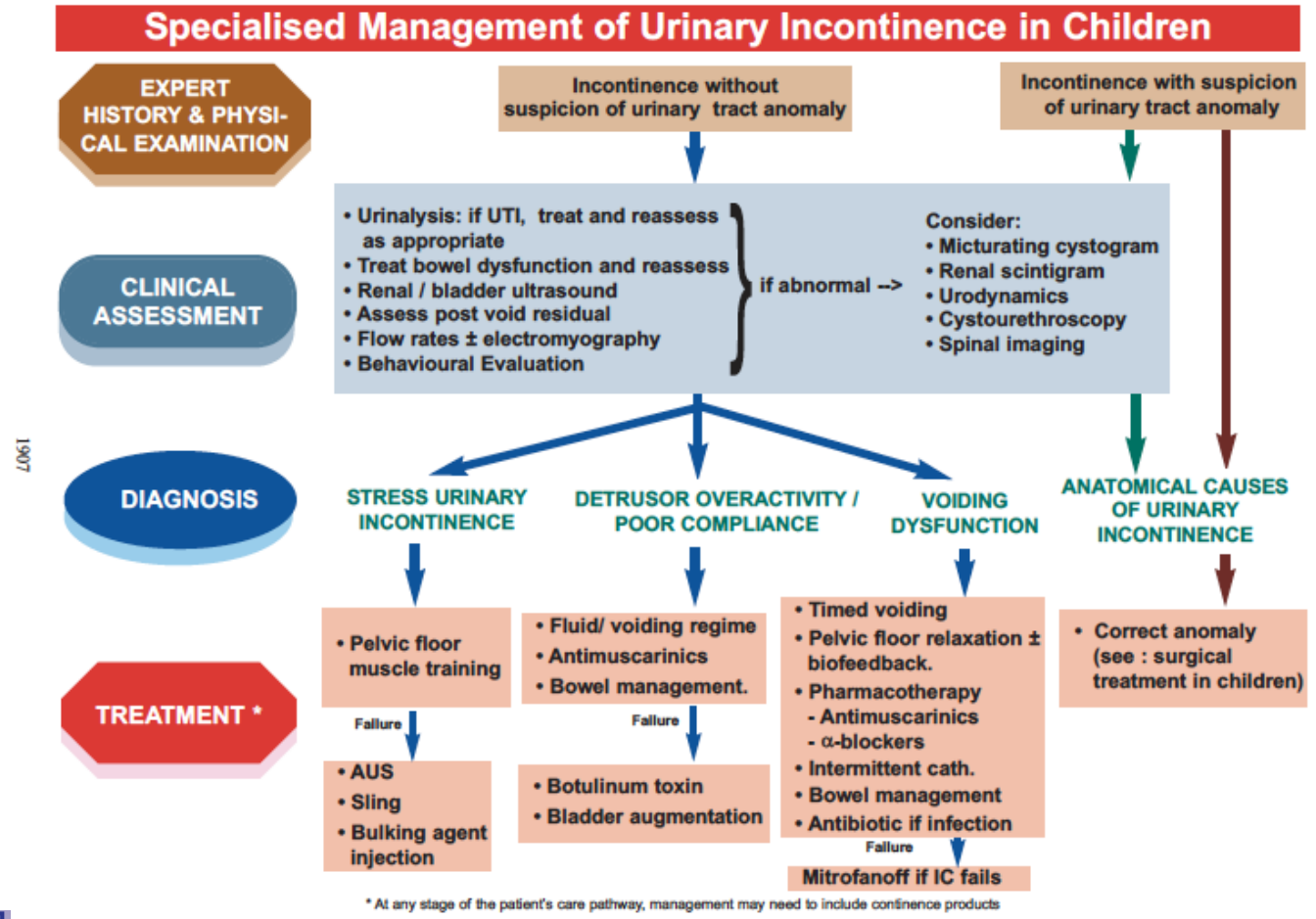
Quelle autonomie de l'enfant?

Anticholinergiques restent la première ligne de traitement (EAU guidelines)

Recommendations on drug treatments	LE	GR
For NDO, antimuscarinic therapy is the recommended first-line medical treatment.	1a	A

Légitime en 2019??

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale… de l'enfant?



INCONTINENCE

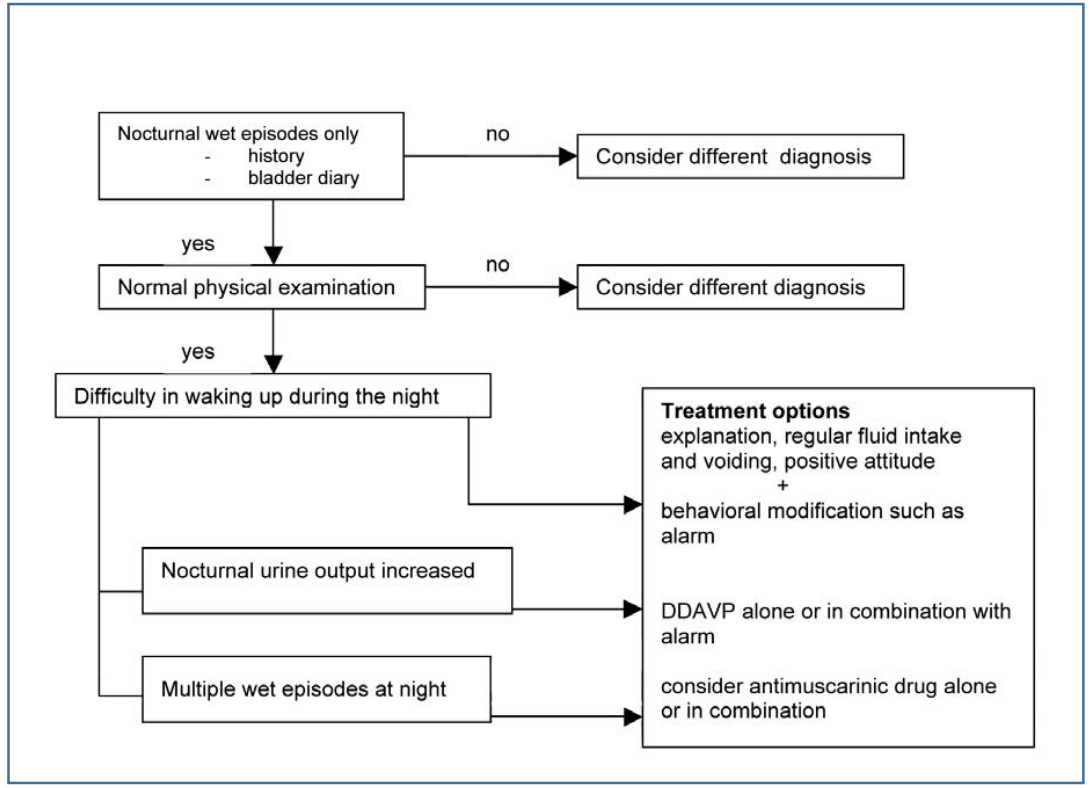
eau European Association of Urology 5th EDITION 2013 ICUD

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale… de l'enfant énurétique

A été utilisé avec une amélioration de 40%

Mais actuellement ce n'est plus un traitement de l'énurésie isolée.

Cependant reste une possibilité dans l'énurésie avec hyperactivité vésicale et détrusorienne avec signes diurnes.



Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale sévère idiopathique ou neurologique chez l'enfant?

Table 1 Baseline demographic characteristics

	Age 6 months–4 years ($n = 14$)	Age 5–10 years ($n = 9$)	Age 11–16 years ($n = 7$)	Total ($n = 30$)
Sex, *n* (%)				
Boys	8 (57)	4 (44)	3 (43)	15 (50)
Girls	6 (43)	5 (56)	4 (57)	15 (50)
Mean age, years (SD)	2.4 (1.6)	7.6 (2.0)	13.1 (1.2)	6.5 (4.6)
Age group, *n* (%)				
6 months–<2 years	6 (43)	0	0	6 (20)
2–<5 years	8 (57)	0	0	8 (27)
5–<8 years	0	5 (56)	0	5 (17)
8–<11 years	0	3 (33)	0	3 (10)
11–<14 years	0	1 (11)	6 (86)	7 (23)
≥14 years	0	0	1 (14)	1 (3)
Race, *n* (%)				
White	12 (86)	7 (78)	5 (71)	24 (80)
Black	0	2 (22)	2 (29)	4 (13)
Not reported	2 (14)	0	0	2 (7)

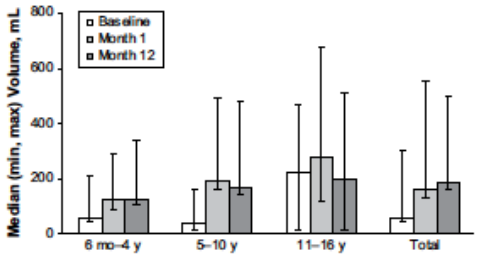


Figure 1 Median intravesical volume at 40 cm H_2O pressure at baseline, months 1 and 12 in the intent-to-treat population.

Journal of Pediatric Urology (2008) 4, 428–433

Efficacité établie sur les principaux paramètres urodynamiques:

Capacité cystomanométrique maximale
Pression maximale du détrusor
Dès les trois premières semaines

Table 1. *Patient characteristics*

Bladder Dysfunction	Gender No. M	Gender No. F	Mean ± SD Age at 2nd Anticholinergic (yrs)	No. Spontaneous Voiding Pattern	No. Catheterization Voiding Pattern	Mean ± SD Followup (mos)
Neurogenic	11	8	13.5 ± 3	3	16	18.9 ± 10
Nonneurogenic	8	6	10.5 ± 2	14	0	17.7 ± 9
Totals	19	14	12.0 ± 3	17	16	18.4 ± 10

Table 2. *LA medication and final medication combinations used*

Medication (mg)	4 mg Tolterodine	5 mg Solifenacin	10 mg Solifenacin	No. Neurogenic/ Nonneurogenic/ Total No.
No. oxybutynin:				
10	0	0	1	0/1/1
15	3	0	4	3/4/7
20	9	2	7	11/7/18
30	3	0	1	3/1/4
No. tolterodine (4)	—	1	2	2/1/3
Totals	15	3	15	19/14

J Urol 2009 182, 2033-2039

Suffisamment efficace pour associer plusieurs A/C en cas de vessie neurologique

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale sévère idiopathique ou neurologique chez l'enfant?

Table 6. Evolution of patients on anticholinergic combination therapy

Type of bladder dysfunction	Still on combination, dosage			Stopped 1 or both medications				Total
	Stable	↑	↓	Dry	S/E	Botox	Augment	
Neurogenic	12	1	1	1	2	7	1	25
Non-neurogenic	20	2	0	9	0	0	0	31
All	32	3	1	10	2	7	1	56

↑Dose increasing; ↓Dose tapering; S/E: Combination stopped because of side effects; Botox: intravesical injection of botulinum toxin; Augment: medications were discontinued and the patient underwent an augmentation enterocystoplasty.

CUAJ • May-June 2014 • Volume 8, Issues 5-6

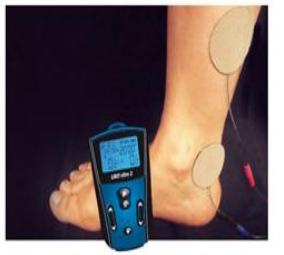
ADRs	Propiverine	Oxybutynin
Constipation	8	8
Dryness of the mouth	2	8
Nausea/vomiting	1	4
Headache in cases of dose increments	1	1
Reduced appetite	1	0
Tiredness	0	3
Reflux oesophagitis	0	1
Flush	0	1
Diarrhoea	0	1
Hot flush	0	1
Somnolence	0	1
Accommodation disorders	0	1
Fatigue	0	1
Dry skin	0	1
Defecation disturbance	0	1
Not specified	0	1
Total number of adverse events	13	34

TABLE 2
The number of ADRs after propiverine and oxybutynin treatment

Mais,
- Effets secondaires présents
-Seule oxybutinine autorisée en France

-Et il existe des alternatives

Neurostimulation tibiale postérieure
Efficacité rapportée sur hyperactivité vésicale et dysurie de l'enfant
Pas d'effets secondaires
Pas de trouble de transit induit



Toxine botulique efficace chez l'enfant

même si impose une anesthésie chez l'enfant
prendre son temps avant de discuter d'un geste chirurgical chez l'enfant

gestion de l'autosondage parfois compliquée à l'adolescence

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale…
chez le patient neurologique ?

Les enjeux

Limiter les conséquences fonctionnelles de l'hyperactivité vésicale

Protéger l'arbre urinaire en luttant contre les hautes pressions vésicales

Cahier des charges variable en fonction des populations

Risque uronéphrologique à long terme versus autonomie mictionnelle

Ressources environnementales

Comorbidités

Anticholinergiques restent la première ligne de traitement (EAU guidelines)

Recommendations on drug treatments	LE	GR
For NDO, antimuscarinic therapy is the recommended first-line medical treatment.	1a	A

Légitime en 2019??

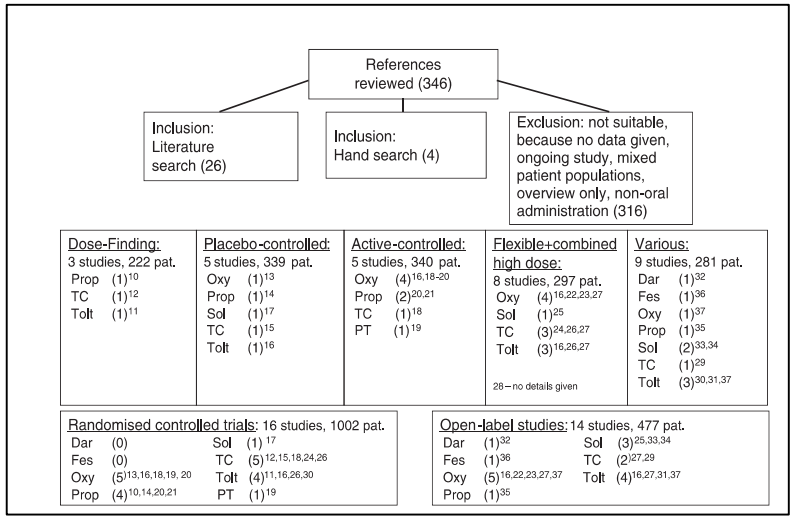
Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale… chez le patient neurologique ?

Neurogenic detrusor overactivity in adults: a review on efficacy, tolerability and safety of oral antimuscarinics

H Madersbacher[1], G Mürtz[2] and M Stöhrer[3]

Spinal Cord (2013) 51, 432–441

Revue, 16 RCT, 1500 patients
Etudes de doses, RCT versus placebo, versus traitement, doses flexibles et combinaison



Efficacité établie sur les principaux paramètres urodynamiques:

Capacité cystomanométrique maximale
Pression maximale du détrusor
Dès les trois premières semaines

Pas d'effets placebo chez le neurologique

Table 2a Placebo-controlled studies—efficacy outcomes[a]

		Stöhrer et al.[13b]		Stöhrer et al.[15]		Stöhrer et al.[14]		Ethans et al.[16]	
		Oxy IR 3 × 5 mg	Placebo	TC IR 2 × 20 mg	Placebo	Prop IR 3 × 15 mg	Placebo	Tolt IR 2 × 2 mg	Placebo
N		60 overall		29	32	60	53	14 overall	
Urodynamic parameters									
Max. cystometric bladder capacity (ml)	Pre	175	240	171	185	262	296	NA	NA
	Post	300	230	309	NA	366	289	322	244
	Post-pre	**+125**	**−10**	**+138**	**−17**	**+104**	**−7**	NA	NA
	P_{intra}	0.0001	0.80	NA	NA	0.0001	NA	NA	NA
	P_{inter}	$p_{Oxy-Plac}$: <0.0001		$p_{TC-Plac}$: <0.001		NA		NA	
Max. detrusor pressure (cm H_2O)	Pre	90	85	101	82	81	92	NA	NA
	Post	55	81	NA	NA	54	92	NA	NA
	Post-pre	**−35**	**−4**	**−38**	**−2**	**−27**	**0**	NA	NA
	P_{intra}	0.0001	0.013			0.001	NA		NA
	P_{inter}	$p_{Oxy-Plac}$: <0.0001		$p_{TC-Plac}$: <0.001		$p_{Prop-Plac}$: 0.0001		NA	
PVR (ml)	Pre	17	13	34	20	50	59	NA	NA
	Post	32	16	NA	NA	87	61	NA	NA
	Post-pre	**+15**	**+3**	**+15**	**+15**	**+37**	**+2**	NA	NA
	P_{intra}	0.0001	0.37	NA	NA	NA	NA	NA	NA
	P_{inter}	$p_{Oxy-Plac}$: 0.012		$p_{TC-Plac}$:0.80		$p_{Prop-Plac}$: 0.01		NA	

Anticholinergic Drugs for Adult Neurogenic Detrusor Overactivity: A Systematic Review and Meta-analysis

Priya Madhuvrata [a,*], Manju Singh [a], Zaid Hasafa [b], Mohamed Abdel-Fattah [c]

960 patients , 16 RCTs , suivi moyen 3.8 semaines
Amélioration significative impression d'amélioration/guérison, MCC, volume reflexe, PD max versus placebo.

EUROPEAN UROLOGY 62 (2012) 816–830

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale… chez le patient neurologique ?

Efficacité établie

Sur les paramètres cliniques

Sur certains paramètres urodynamiques

Sur la qualité de vie

Solifenacin Is Effective and Well Tolerated in Patients With Neurogenic Detrusor Overactivity: Results From the Double-Blind, Randomized, Active- and Placebo-Controlled SONIC Urodynamic Study

G. Amarenco,[1]* M. Sutory,[2] R. Zachoval,[3] M. Agarwal,[4] G. Del Popolo,[5] R. Tretter,[6] G. Compion,[7] and D. De Ridder[8]

Neurourology and Urodynamics 36:414–421 (2017)

TABLE II. Change in Mean (Standard Deviation) Urodynamic and Micturition Diary Variables, and Patient-Reported Outcomes From Baseline to End of Treatment (FAS)

	Placebo	Solifenacin 5 mg	Solifenacin 10 mg	Oxybutynin 15 mg
Urodynamic and micturition diary variables from baseline to end of treatment (FAS)				
Maximum cystometric capacity, ml				
Baseline	n = 40 226.9 (108.1)	n = 46 222.9 (115.4)	n = 51 225.1 (107.5)	n = 39 214.7 (102.7)
End of treatment	n = 40 232.4 (101.9)	n = 46 300.7 (149.7)	n = 51 359.3 (152.3)	n = 39 380.1 (169.3)
Change[a]	5.4 (120.3)	77.8 (115.4)**,††	134.2 (124.7)***	165.4 (145.6)***
LSmean change versus placebo (95%CI)		72.1 (19.6, 124.6)	128.9 (77.7, 180.2)	158.4 (103.6, 213.1)
Bladder volume at first involuntary contraction, ml				
Baseline	n = 39 137.8 (85.5)	n = 46 138.8 (84.8)	n = 51 142.3 (87.4)	n = 39 124.8 (88.3)
End of treatment	n = 38 130.6 (62.8)	n = 42 192.7 (112.3)	n = 45 215.8 (142.1)	n = 36 234.8 (105.6)
Change[a]	−10.1 (83.1)	60.0 (109.2)**,†	79.2 (122.3)***	113.4 (101.4)***
Bladder volume at first leak, ml				
Baseline	n = 26 155.0 (94.7)	n = 28 157.0 (102.6)	n = 25 137.4 (91.9)	n = 23 165.7 (105.5)
End of treatment	n = 25 141.2 (62.5)	n = 21 202.2 (142.0)	n = 21 230.3 (141.4)	n = 12 215.3 (138.8)
Change[a]	−13.2 (110.2)	59.8 (101.6)	83.3 (134.7)*	142.5 (130.8)**
Detrusor pressure at first leak, cmH_2O				
Baseline	n = 26 57.3 (27.3)	n = 26 68.0 (38.3)	n = 24 63.0 (35.8)	n = 22 67.3 (42.7)
End of treatment	n = 24 73.2 (39.5)	n = 18 55.5 (28.7)	n = 19 44.4 (16.2)	n = 10 50.9 (33.0)
Change[a]	7.7 (20.3)	−14.8 (24.4)*	−11.7 (20.8)*	−27.6 (43.7)**
Maximum detrusor pressure, cmH_2O				
Baseline	n = 40 74.0 (40.2)	n = 46 74.0 (42.7)	n = 51 60.6 (32.8)	n = 39 68.9 (36.7)
End of treatment	n = 40 81.5 (60.8)	n = 46 57.4 (37.9)	n = 50 49.8 (40.3)	n = 39 44.6 (26.4)
Change[a]	7.5 (51.0)	−16.6 (32.9)**	−10.5 (37.2)**	−24.3 (27.6)***
Number of natural micturitions/24 hr[b]				
Baseline	n = 26 9.22 (5.90)	n = 38 8.84 (4.27)	n = 38 10.07 (3.40)	n = 28 10.04 (3.84)
End of treatment	n = 26 8.57 (5.86)	n = 38 7.10 (3.78)	n = 38 9.09 (4.01)	n = 28 8.29 (4.17)
Change[a]	−0.67 (2.60)	−1.76(3.12)	−0.97 (3.31)	−1.74 (2.90)
Number of catheterizations/24 hr[b]				
Baseline	n = 24 5.45 (3.26)	n = 22 5.37 (2.92)	n = 18 5.68 (3.64)	n = 19 5.06 (2.99)
End of treatment	n = 23 5.03 (3.24)	n = 21 5.04 (2.16)	n = 18 4.93 (2.80)	n = 19 4.73 (2.20)
Change[a]	−0.21 (0.84)	−0.33(1.45)	−0.76 (2.01)	−0.31 (1.95)
Number of incontinence episodes/24 hr[b]				
Baseline	n = 30 2.62 (2.80)	n = 31 2.12 (1.88)	n = 38 2.47 (3.09)	n = 22 4.22 (4.42)
End of treatment	n = 29 2.22 (2.83)	n = 31 0.80 (1.24)	n = 38 1.88 (3.51)	n = 22 1.52 (2.97)
Change[a]	−0.30 (1.20)	−1.33 (1.50)*	−0.57 (2.29)††	−2.71 (2.84)**
Patient-reported outcomes from baseline to end of treatment (FAS)				
n	40	46	51	39
PPBC score				
Baseline	4.2 (1.19)	4.2 (0.98)	4.5 (1.05)	4.2 (1.16)
End of treatment	4.2 (1.17)	3.8 (1.22)	3.9 (1.28)	3.7 (1.31)
Change[a]	−0.1 (0.92)	−0.4 (1.04)	−0.6 (1.04)*	−0.5 (1.02)
I-QoL questionnaire				
Total score				
Baseline	44.63 (21.83)	51.04 (20.76)	44.73 (23.30)	52.33 (22.35)
End of treatment	48.49 (22.26)	59.17 (23.24)	54.21 (25.16)	57.96 (24.13)
Change[a]	3.86 (13.26)	8.13 (15.05)	9.48 (17.69)	5.63 (17.34)
Avoidance and limiting behavior score				
Baseline	45.60 (20.69)	50.88 (18.68)	46.18 (21.72)	51.54 (20.80)
End of treatment	47.47 (22.90)	60.01 (21.74)	55.12 (23.49)	58.30 (21.55)
Change[a]	1.87 (12.35)	9.14 (15.97)*	8.96 (18.60)*	6.76 (17.22)
Psychosocial impact score				
Baseline	49.37 (25.20)	56.77 (25.13)	49.29 (26.48)	57.55 (24.80)
End of treatment	53.15 (23.75)	65.33 (25.38)	58.60 (26.71)	60.79 (27.24)
Change[a]	3.77 (13.79)	8.54 (16.31)	9.30 (17.04)	3.24 (18.91)
Social embarrassment score				
Baseline	38.96 (24.83)	45.46 (24.25)	38.73 (25.14)	47.95 (26.85)
End of treatment	44.88 (24.87)	52.17 (26.41)	48.92 (28.06)	54.83 (27.06)
Change[a]	5.92 (19.50)	6.71 (17.60)	10.20 (20.86)	6.88 (20.59)
VAS-TS				
Baseline	39.8 (34.13)	52.8 (38.06)	47.0 (38.62)	53.1 (35.97)
End of treatment	42.6 (33.09)	63.1 (33.81)	61.3 (33.67)	64.7 (31.43)
Change[a]	1.3 (35.55)	10.3 (47.23)*	14.3 (34.43)*	11.7 (44.86)**

TABLE III. Change in Maximum Cystometric Capacity (ml): Subgroup Analysis of Subjects With Multiple Sclerosis and With Spinal Cord Injury

	Placebo (n = 40)	Solifenacin 5 mg (n = 46)	Solifenacin 10 mg (n = 51)	Oxybutynin 15 mg (n = 39)
		Multiple sclerosis		
n[a]	17	28	28	22
Baseline	230.2 (124.10)	217.1 (117.01)	211.5 (91.93)	207.7 (88.21)
End-of-study visit	222.2 (103.41)	282.5 (138.27)	344.4 (139.41)	322.1 (138.78)
Change from baseline	−8.0 (106.20)	65.4 (120.74)	132.9 (131.48)	114.5 (126.63)
P (vs. placebo)	–	0.030	<0.001	0.001
P (vs. oxybutynin)	0.001	0.170	0.521	–
		Spinal cord injury		
n[a]	23	18	23	17
Baseline	224.5 (97.46)	232.0 (115.64)	241.7 (124.05)	223.8 (121.10)
End-of-study visit	239.8 (102.49)	329.1 (166.04)	377.4 (168.13)	455.1 (179.40)
Change from baseline	15.3 (131.10)	97.1 (106.97)	135.8 (118.80)	231.4 (145.37)
P (vs. placebo)	–	0.038	0.001	<0.001
P (vs. oxybutynin)	<0.001	0.003	0.026	–

Mais de quelle amplitude???

Quel bénéfice réel

d'une réduction de -1.3 fuite par jour?

de moins d'une miction/sondage par 24 h?

d'un passage de 74 à 60 cm de PD max?

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale… chez le patient neurologique ?

Efficacité établie, oui, mais quelle pertinence???

Réduction de 30% en moyenne des pressions détrusoriennes maximales

Seuls 29% des patients atteignent le seuil 'protecteur' décrit chez l'enfant de PD> 40 cm H20

Quid de la pertinence de ce seuil chez l'adulte?

Are oxybutynin and trospium efficacious in the treatment of detrusor overactivity in spinal cord injury patients?

N Hadiji[1], JG Previnaire[2], R Benbouzid[1], G Robain[3], C Leblond[1], R Mieusset[4], M Enjalbert[1,5] and JM Soler[1]

Objectives: To evaluate the efficacy of anticholinergic agents in the treatment of neurogenic overactive bladder (NOAB) and neurogenic detrusor overactivity (NDO) in spinal cord injury (SCI) patients on clean intermittent catheterisation (CIC).
Methods: Chronic suprasacral SCI patients on CIC presenting with at least one urinary leakage a day were included. Urodynamics and voiding diaries were performed at baseline and 1 month follow-up. In case of NDO at baseline, an anticholinergic drug was prescribed.
Results: The 231 SCI patients presented with one to five urinary leakages per day (mean 2.1). Urodynamics showed NDO in all patients. A new anticholinergic treatment was started in all, either in monotherapy (134 patients) or in association with the existing anticholinergic drug (oxybutynin + trospium bitherapy, 97 patients). The mean maximum bladder capacity significantly increased from 225 to 441 ml, and the mean involuntary detrusor contractions (IDC) significantly decreased from 67 to 41 cm H_2O. Only 75 SCI patients (32%) were fully continent. However, 25 out of these 75 patients showed persistent NDO, with amplitudes of IDC above 40 cm H_2O in 12 patients. Incontinence was still found in 156 SCI patients (67%), with an average of 1,2 leakages a day. In 100 patients, amplitudes of IDC remained above 40 cm H_2O. There was no statistical difference between patients on anticholinergic monotherapy or bitherapy at follow-up.
Conclusion: Anticholinergic treatment is not always satisfactory in terms of control of NDO and rarely allows full continence. Urodynamic follow-up is mandatory in all patients, even in those showing clinical continence.
Spinal Cord (2014) **52**, 701–705; doi:10.1038/sc.2014.113; published online 22 July 2014

Taux de continence complète limitée+++ (33% seulement!)

Résultats controversés pour compliance

Efficacy of extended-release tolterodine for the treatment of neurogenic detrusor overactivity and/or low-compliance bladder

Miho Watanabe,[1] Tomonori Yamanishi,[1] Mikihiko Honda,[1] Ryuji Sakakibara,[2] Tomoyuki Uchiyama[3] and Ken-Ichiro Yoshida[1]

Table 1 Results of urodynamic study before and at 12 weeks (12W) of treatment

Cystometry	Before	12W	*P*-value
All patients ($n = 39$)			
First sensation (mL)	141.3 ± 78.3	178.1 ± 110.2	0.0402
MCC (mL)	221.5 ± 121.5	303.7 ± 145.2	<0.0001
Bladder compliance (mL/cmH2O)	33.0 ± 30.7	41.8 ± 47.5	0.1353
Patients with DO ($n = 32$)			
MCC (mL)	212.7 ± 111.7	285.1 ± 137.2	0.0011
FIC (mL)	179.0 ± 110.4	257.8 ± 141.1	0.0009
DO amplitude (cmH2O)	56.9 ± 35.9	38.4 ± 29.6	0.0025
P_{det} at MCC (cmH2O)	18.4 ± 22.1	23.5 ± 21.0	0.0542
Patients with low-compliance bladder without DO ($n = 7$)			
MCC	261.7 ± 163.6	388.9 ± 161.3	0.0313
Bladder compliance (mL/cmH2O)	6.7 ± 4.7	14.6 ± 16.0	0.0156
Free uroflowmetry† (in patients with DO; $n = 21$)			
Voided volumes (mL)	169.8 ± 85.0	188.1 ± 85.4	0.3426
Q_{ave} (mL/s)	7.0 ± 3.7	5.1 ± 2.7	0.0644
Q_{max} (mL/s)	15.3 ± 6.6	13.8 ± 6.0	0.3898
PVR (mL)	34.0 ± 47.5	41.6 ± 61.0	0.7726
% PVR	34.4 ± 51.9	1.1 ± 3.0	0.6875
Pressure-flow study† (in patients with DO; $n = 20$)			
P_{detmax} (cmH2O)	48.9 ± 23.4	49.4 ± 22.5	0.9099
$P_{detQmax}$ (cmH2O)	50.0 ± 28.8	40.6 ± 24.8	0.3749
P_{detOP} (cmH2O)	42.6 ± 28.1	35.9 ± 22.1	0.2263
Schäfer nomogram‡	1.5 ± 1.5	1.4 ± 1.4	0.7813
WF_{Qmax}	14.8 ± 10.2	10.1 ± 7.6	0.0419
BOOI	8.3 ± 25.8	8.0 ± 20.3	0.4713

†Uroflowmetry and pressure-flow study were performed in patients with DO who could void. ‡Schäfer's linear passive urethral resistance relation obstruction class. BOOI, bladder outlet obstruction index (calculated as $P_{detQmax} - 2Q_{max}$); FIC, bladder capacity at first involuntary contraction; MCC, maximum cystometric capacity; P_{det}, at MCC, detrusor pressure at MCC or immediately before the start of detrusor overactivity; P_{detmax}, maximum detrusor pressure; P_{detOP}, detrusor opening pressure; $P_{detQmax}$, detrusor pressure at maximum flow rate; Q_{ave}, average flow rate; Q_{max}, maximum flow rate; WF_{Qmax}, Watts factor at maximum flow rate.

Pas de documentation à long terme sur haut appareil urinaire

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale… chez le patient neurologique ?

Efficacité établie, oui, mais à quel prix??

Adverse Event Assessment of Antimuscarinics for Treating Overactive Bladder: A Network Meta-Analytic Approach

Thomas M. Kessler[1,2], Lucas M. Bachmann[1]*, Christoph Minder[1], David Löhrer[1], Martin Umbehr[1], Holger J. Schünemann[3], Alfons G. H. Kessels[1,4]

Revue, 69 études, > 26000 patients

February 2011 | Volume 6 | Issue 2

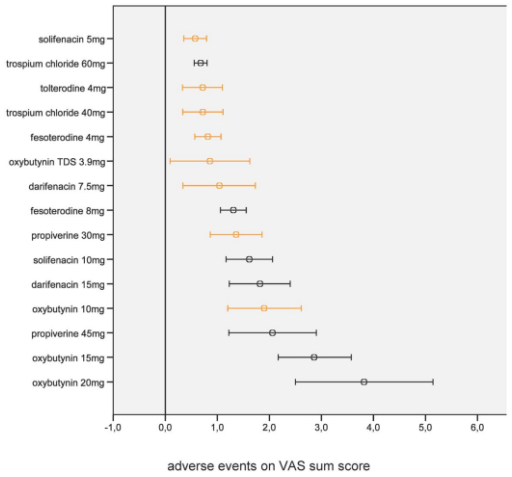


Figure 1. Overall adverse event profiles (from 69 trials) of different antimuscarinic treatments and dosages per day compared with placebo (reference line through 0). The orange lines represent the currently used starting dosages (oxybutynin 15 mg/d and trospium chloride 60 mg/d may also be used as starting dosages).# mean, 95% confidence interval, TDS transdermal system, VAS visual analogue scale.

Anti-cholinergic medications for bladder dysfunction worsen cognition in persons with multiple sclerosis

Sarah A. Morrow[a,*], Heather Rosehart[b], Alp Sener[c], Blayne Welk[d]

Brief International Cognitive Assessment for MS (BiCAMS) avant et 12 semaines après anticholinergiques.
48 patients sous traitement (Tolerodine 4 à 8 mg, oxybutynine 5 à 10 mg) versus 21 sans traitement.

Détérioration des 3 paramètres cognitifs sous traitement versus amélioration (effet de répétition)

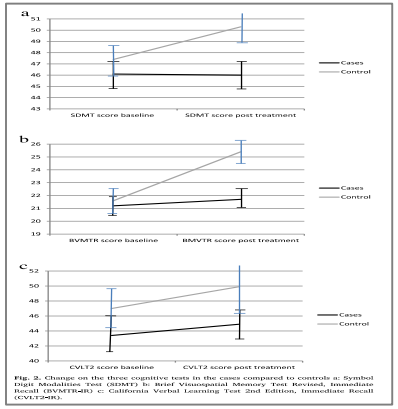


Fig. 2. Change on the three cognitive tests in the cases compared to controls a: Symbol Digit Modalities Test (SDMT) b: Brief Visuospatial Memory Test Revised, Immediate Recall (BVMTR-IR) c: California Verbal Learning Test 2nd Edition, Immediate Recall (CVLT2-IR).

Journal of the Neurological Sciences 385 (2018) 39–44

Real life persistence rate with antimuscarinic treatment in patients with idiopathic or neurogenic overactive bladder: a prospective cohort study with solifenacin

Table 2 Persistence rate solifenacin after one year

	Patients still using	Patients discontinued	Lost to FU
All patients	50 (40.7%)	61 (49.6%)	12 (9.7%)
Neurogenic OAB	23 (57.5%)	13 (32.5%)	4 (10%)
Idiopathic OAB	27 (32.5%)	48 (57.8%)	8 (9.7%)

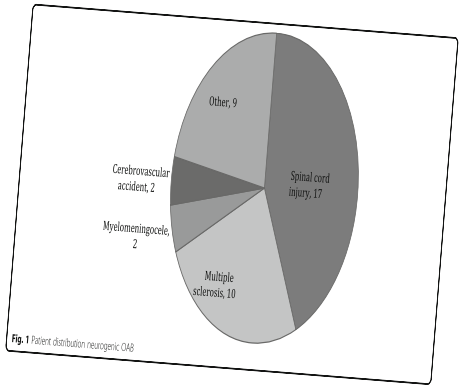


Fig. 1 Patient distribution neurogenic OAB

Raison de l'arrêt

Moindre d'efficacité 39%
Effet secondaire 30%
Combinaison des deux 13%

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale… chez le patient neurologique ?

Mais est ce encore légitime???

EUROPEAN UROLOGY 53 (2008) 1275–1287

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Review – Neuro-urology

Botulinum Toxin A (Botox®) Intradetrusor Injections in Adults with Neurogenic Detrusor Overactivity/Neurogenic Overactive Bladder: A Systematic Literature Review

Gilles Karsenty [a], Pierre Denys [b], Gérard Amarenco [c], Marianne De Seze [d], Xavier Gamé [e], François Haab [f], Jacques Kerdraon [g], Brigitte Perrouin-Verbe [h], Alain Ruffion [i], Christian Saussine [j], Jean-Marc Soler [k], Brigitte Schurch [l], Emmanuel Chartier-Kastler [m,*]

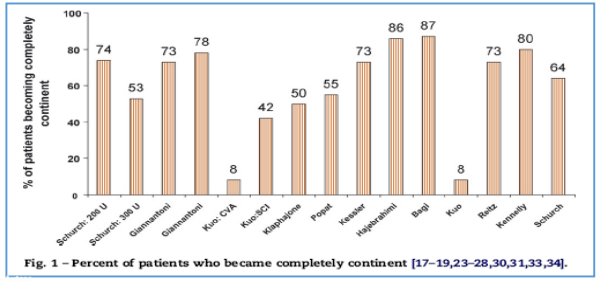
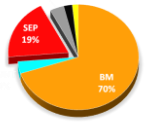


Fig. 1 – Percent of patients who became completely continent [17–19,23–28,30,31,33,34].



200 U Botox,
70 à 80 % continence complète

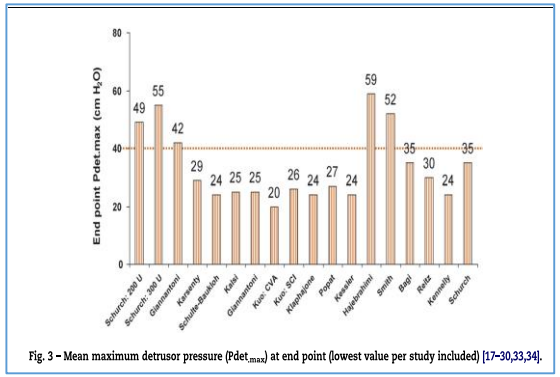


Fig. 3 – Mean maximum detrusor pressure ($Pdet_{max}$) at end point (lowest value per study included) [17–30,33,34].

ARTICLE OPEN ACCESS CLASS OF EVIDENCE

Low-dose onabotulinumtoxinA improves urinary symptoms in noncatheterizing patients with MS

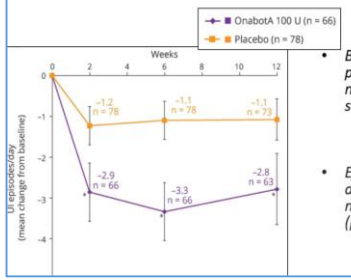
Mark Tullman, MD, Emmanuel Chartier-Kastler, MD, PhD, Alfred Kohan, MD, Veronique Keppenne, MD, Benjamin M. Brucker, MD, Blair Egerdie, MD, Meryl Mandle, BS, Jean Paul Nicandro, PharmD, Brenda Jenkins, BS, and Pierre Denys, MD

Correspondence
Dr. Tullman
mjt2796@bjc.org

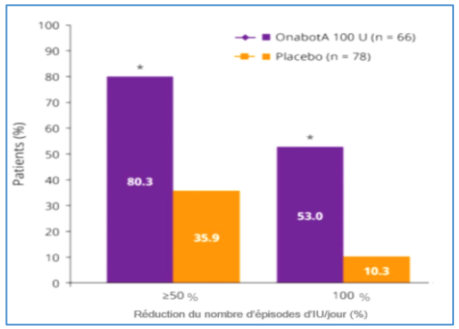
Neurology® 2018;91:e657-e665. doi:10.1212/WNL.0000000000005991

Critère principal :

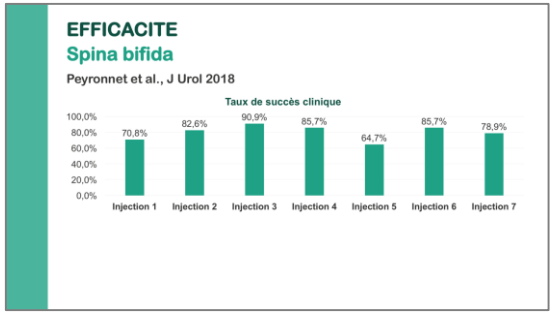
Changement moyen des épisodes d'incontinence urinaire

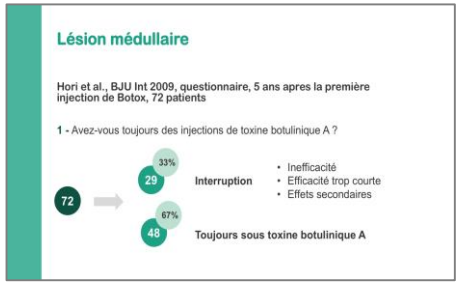


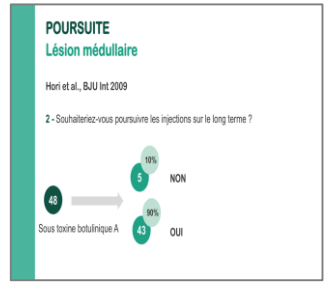
- *BOTOX® à la dose de 100 UNITES ALLERGAN permet une diminution significative Du nombres d'épisodes d'incontinence urinaire à la semaine 6 (P<0,001)*
- *Efficacité de la dose de 100 UNITES ALLERGAN de BOTOX® dès la deuxième semaine et maintient jusqu'à 12 semaines post-injection (p<0.001).*

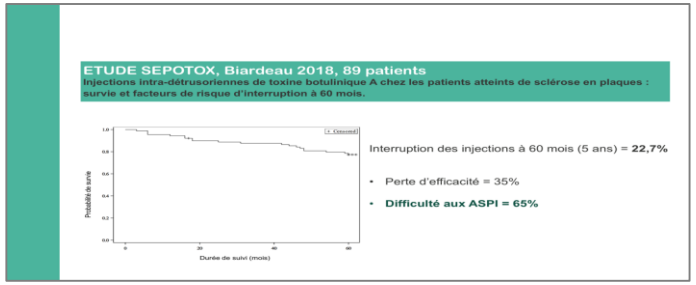


53% des patients injectés par BOTOX® à la dose de 100 UNITES ALLERGAN sont totalement continent à la semaine 6 vs. 10,3% pour le groupe placebo (P<0,001)









Reste t'il une place aux anticholinergiques dans l'hyperactivité détrusorienne neurologique de la femme?

oui, pendant la grossesse

Contre indication (jusqu' a nouvelles données) à la toxine botulique

Pas de données sur les beta 3 adrénergiques

Les plus anciens sont recommandés (oxybutinine)

Reste t'il une place aux anticholinergiques dans l'hyperactivité vésicale… idiopathique de la femme?

Which anticholinergic is best for people with overactive bladders? A network meta-analysis

Peter Herbison[1] | **Joanne E McKenzie**[2]

Neurourology and Urodynamics. 2019;38:525–534.

Revue de 128 études

Supériorité de tous les anticholinergiques versus placebo

Pas de bénéfice ubiquitaire de l'un par rapport aux autres (différence maximale entre eux de l'ordre de moins d'une fuite ou d'une miction en 4 à 5 jours)

Tolérance moins satisfaisante que placebo

Moindre effets secondaires pour oxybutynine transdermique, pire pour oxybutynine IR

TABLE 4 Mean differences and their 95% confidence intervals between treatments from the network meta-analysis in voids per day

	Placebo	Oxybutynin IR	Oxybutynin ER	Oxybutynin transdermal	Tolterodine IR	Tolterodine ER	Solifenacin	Trospium	Propiverine	Fesoterodine	Darifenacin	Imidafenacin
Placebo		**−0.57**	−0.41	**−0.61**	**−0.63**	**−0.56**	**−0.81**	**−0.84**	**−0.65**	**−0.65**	−0.74	**−1.22**
		−0.95,−0.18	−0.99,0.17	**−1.10,−0.12**	**−0.93,−0.34**	**−0.81,−0.31**	**−1.06, −0.56**	**−1.28, −0.40**	**−0.99, −0.31**	**−0.91,−0.40**	−1.49,0.01	**−1.65,−0.80**
Oxybutynin IR			0.16	−0.04	−0.07	0.01	−0.24	−0.27	−0.08	−0.09	−0.17	**−0.66**
			−0.36,0.68	−0.66,0.57	−0.38,0.24	−0.44,0.46	−0.67,0.19	−0.20,0.74	−0.56,0.40	−0.54,0.37	−1.00,0.65	**−1.22,−0.10**
Oxybutynin ER				−0.20	−0.23	−0.15	−0.40	−0.43	−0.24	−0.24	−0.33	**−0.82**
				−0.95,0.56	−0.74,0.29	−0.78,0.48	−1.01,0.21	−1.10,0.23	−0.89,0.41	−0.88,0.39	−1.27,0.60	**−1.53,−0.11**
Oxybutynin transdermal					−0.03	0.05	−0.20	−0.23	−0.04	−0.04	−0.13	−0.62
					−0.59,0.54	−0.49,0.58	−0.74,0.34	−0.87,0.42	−0.59,0.51	−0.59,0.50	−1.02,0.76	−1.24,0.01
Tolterodine IR						0.08	−0.18	−0.21	−0.01	−0.02	−0.11	**−0.59**
						−0.31,0.46	−0.52,0.17	−0.67,0.26	−0.42,0.39	−0.41,0.37	−0.89,0.68	**−1.09,−0.09**
Tolterdine ER							−0.25	−0.28	−0.09	−0.09	−0.18	**−0.67**
							−0.56,0.06	−0.78,0.22	−0.51,0.32	−0.41,0.22	−0.95,0.59	**−1.15,−0.18**
Solifenacin								−0.03	0.16	0.16	0.07	−0.41
								−0.52,0.46	−0.24,0.56	−0.19,0.50	−0.64,0.77	−0.90,0.07
Trospium									0.19	0.19	0.10	−0.38
									−0.35,0.73	−0.32,0.69	−0.76,0.96	−0.99,0.22
Propiverine										−0.003	−0.09	**−0.57**
										−0.41,0.41	−0.72,0.90	**−1.01,−0.14**
Fesoterodine											−0.09	**−0.57**
											−0.88,0.70	**−1.02,−0.12**
Darifenacin												−0.48
												−1.34,0.37

TABLE 2 Odds ratios and their 95% confidence intervals of differences between treatments from the network meta-analysis of cure or improvement

	Placebo	Oxybutynin IR	Oxybutynin ER	Oxybutynin transdermal	Tolterodine IR	Tolterodine ER	Solifenacin	Trospium	Propiverine	Fesoterodine	Darifenacin
Placebo		**2.20**	**2.02**	**1.48**	**2.23**	**1.42**	**1.84**	**1.93**	**1.87**	**2.10**	**2.37**
		1.69,2.88	**1.25,3.26**	**1.12,1.97**	**1.67,2.98**	**1.22,1.65**	**1.39,2.43**	**1.13,3.29**	**1.44,2.42**	**1.72,2.57**	**1.12,5.03**
Oxybutynin IR	**0.45**		0.92	**0.67**	1.01	**0.65**	0.83	0.88	0.85	0.95	1.08
	0.35,0.59		0.56,1.51	**0.47,0.97**	0.76,1.35	**0.48,0.86**	0.57,1.21	0.49,1.58	0.61,1.18	0.69,1.33	0.48,2.39
Oxybutynin ER	**0.50**	1.09		0.73	1.10	0.70	0.91	0.95	0.92	1.04	1.17
	0.31,0.80	0.66,1.79		0.42,1.27	0.65,1.89	0.44,1.12	0.53,1.56	0.47,1.95	0.54,1.58	0.62,1.73	0.48,2.86
Oxybutynin transdermal	**0.68**	**1.49**	1.36		**1.51**	0.96	1.24	1.30	1.26	**1.42**	1.60
	0.51,0.89	**1.03,2.15**	0.79,2.36		**1.02,2.22**	0.70,1.31	0.84,1.82	0.71,2.38	0.90,1.77	**1.00,2.01**	0.71,3.58
Tolterodine IR	**0.45**	0.99	0.91	**0.66**		0.64	0.82	0.86	0.84	0.94	1.06
	0.34,0.60	0.74,1.32	0.53,1.55	**0.45,0.98**		0.46,0.87	0.56,1.21	0.48,1.56	0.60,1.16	0.66,1.33	0.47,2.38
Tolterdine ER	**0.70**	**1.55**	1.42	1.04	**1.57**		1.29	1.36	1.32	**1.48**	1.67
	0.61,0.82	**1.16,2.07**	0.89,2.27	0.76,1.42	**1.15,2.15**		0.96,1.73	0.78,2.36	0.98,1.76	**1.18,1.86**	0.77,3.59
Solifenacin	**0.54**	1.20	1.10	0.81	1.22	0.77		1.05	1.02	1.14	1.29
	0.41,0.72	0.83,1.74	0.64,1.89	0.55,1.19	0.83,1.79	0.58,1.04		0.58,1.92	0.73,1.43	0.81,1.61	0.58,2.88
Trospium	**0.52**	1.14	1.05	0.77	1.16	0.74	0.95		0.97	1.09	1.23
	0.30,0.88	0.63,2.06	0.51,2.14	0.42,1.41	0.64,2.09	0.42,1.28	0.52,1.74		0.54,1.75	0.62,1.93	0.49,3.09
Propiverine	**0.53**	1.18	1.08	0.79	1.19	0.76	0.98	1.03		1.12	1.27
	0.41,0.69	0.85,1.64	0.63,1.85	0.56,1.11	0.86,1.65	0.57,1.02	0.70,1.38	0.57,1.86		0.81,1.56	0.57,2.81
Fesoterodine	**0.48**	1.05	0.96	**0.71**	1.06	**0.68**	0.87	0.92	0.89		1.13
	0.39,0.58	0.75,1.46	0.58,1.60	**0.50,1.00**	0.75,1.51	**0.54,0.85**	0.62,1.23	0.52,1.62	0.64,1.23		0.52,2.46
Darifenacin	**0.42**	0.93	0.85	0.63	0.94	0.60	0.77	0.81	0.79	0.89	
	0.20,0.89	0.42,2.07	0.35,2.08	0.28,2.40	0.42,2.11	0.28,1.29	0.35,1.73	0.32,2.05	0.36,1.75	0.41,1.93	

TABLE 3 Mean differences and their 95% confidence intervals between treatments from the network meta-analysis in leakages episodes per day

	Placebo	Oxybutynin IR	Oxybutynin ER	Oxybutynin transdermal	Tolterodine IR	Tolterodine ER	Solifenacin	Trospium	Propiverine	Fesoterodine	Imidafenacin
Placebo		**−0.52**	−0.36	**−0.52**	**−0.46**	**−0.56**	**−0.41**	−0.32	**−0.47**	**−0.58**	**−0.49**
		−0.90,−0.14	−0.95,0.23	**−0.94,−0.10**	**−0.78,−0.13**	**−0.84,−0.28**	**−0.71, −0.11**	−0.89,0.26	**−0.82, −0.13**	**−0.89,−0.26**	**−0.95,−0.04**
Oxybutynin IR			0.16	0.01	0.07	−0.03	0.11	0.21	0.05	−0.05	0.03
			−0.40,0.73	−0.49,0.50	−0.28,0.41	−0.49,0.43	−0.34,0.57	−0.38,0.79	−0.43,0.53	−0.54,0.44	−0.55,0.61
Oxybutynin ER				−0.16	−0.10	−0.20	−0.05	0.04	−0.11	−0.21	−0.13
				−0.85,0.54	−0.66,0.47	−0.85,0.45	−0.69,0.59	−0.74,0.82	−0.78,0.55	−0.89,0.45	−0.87,0.61
Oxybutynin transdermal					0.06	−0.04	0.11	0.20	0.05	−0.05	0.02
					−0.44,0.56	−0.53,0.45	−0.39,0.61	−0.49,0.89	−0.46,0.55	−0.58,0.47	−0.58,0.63
Tolterodine IR						−0.10	0.05	0.14	−0.02	−0.12	−0.04
						−0.52,0.32	−0.35,0.44	−0.48,0.75	−0.45,0.41	−0.57,0.33	−0.58,0.51
Tolterdine ER							0.15	0.24	0.08	−0.02	0.06
							−0.21,0.51	−0.40,0.87	−0.35,0.52	−0.39,0.35	−0.46,0.58
Solifenacin								0.09	−0.06	−0.17	−0.08
								−0.55,0.72	−0.49,0.37	−0.59,0.26	−0.62,0.45
Trospium									−0.15	−0.26	−0.17
									−0.82,0.51	−0.91,0.40	−0.90,0.55
Propiverine										−0.10	−0.02
										−0.56,0.35	−0.49,0.45
Fesoterodine											0.08
											−0.41,0.58

Reste t'il une place aux anticholinergiques dans l'hyperactivité vésicale… idiopathique de la femme?

Une efficacité établie

Anticholinergic Drugs for Adult Neurogenic Detrusor Overactivity: A Systematic Review and Meta-analysis

Priya Madhuvrata [a,*], Manju Singh [a], Zaid Hasafa [b], Mohamed Abdel-Fattah [c]

EUROPEAN UROLOGY 62 (2012) 816–830

Supériorité versus placebo

Réduction du nombre de fuites par urgenturie/24
Réduction du nombre de mictions/24 h
Réduction du nombre d'urgenturie/24 h
Augmentation du volume par miction

Recommendations	GR
Offer IR or ER formulations of antimuscarinic drugs for adults with urgency urinary incontinence.	A
If IR formulations of antimuscarinic drugs are unsuccessful for adults with urgency urinary incontinence, offer ER formulations or longer-acting antimuscarinic agents.	A

…et même cerises sur le gâteau

The effect of overactive bladder treatment with anticholinergics on female sexual function in women: a prospective observational study

Suleyman Sami Cakir[1] · Recep Burak Degirmentepe[1] · Hasan Anil Atalay[1] · Halil Lutfi Canat[1] · Sait Ozbir[1] · Mehmet Gokhan Culha[1] · Emre Can Polat[1] · Alper Otunctemur[1]

Table 2 Change in Female Sexual Function Index (FSFI) before and 3 months after treatment with the anticholinergic (AC) agents in study group and in comparison to control group

	Pre-treatment scores in study group	Post-treatment scores in study group	Post-treatment Improvement in study group	Pre-treatment scores versus post-treatment scores in study group (two sample paired *t* test)	Control group scores	Pre-treatment scores in study group versus control group (Student *t* test)	Post-treatment scores in study group versus control group (Student *t* test)
	Mean ± SD	Mean ± SD	(*n* %)	*p* Values	Mean ± SD	*p* Values	*p* Values
Desire (1.2–6)	2.94 ± 0.69	3.19 ± 0.61	84 (38.8%)	<0.01	3.72 ± 1.61	<0.01	=0.005
Arousal (0–6)	3.43 ± 0.89	3.85 ± 0.74	95 (43.9%)	<0.01	4.37 ± 1.56	<0.01	<0.01
Lubrication (0–6)	4.19 ± 0.62	4.09 ± 0.56	13(6, 01%)	=.063	4.73 ± 1.16	<0.01	<0.01
Orgasm (0–6)	3.51 ± 0.71	4.10 ± 0.42	162 (75%)	<0.01	4.21 ± 0.99	<0.01	0.071
Satisfaction (0.8–6)	3.26 ± 1.01	3.68 ± 0.89	79 (36.5%)	<0.01	4.99 ± 1.06	<0.01	<0.01
Pain (0–6)	4.14 ± 0.88	4.53 ± 0.78	129 (59.7%)	<0.01	4.57 ± 1.28	<0.0014	0.552
Total FSFI (2–36)	21.47 ± 3.22	23.72 ± 2.61	194 (89.8%)	<0.01	26.79 ± 5.56	<0.01	<0.01

Reste t'il une place aux anticholinergiques dans l'hyperactivité vésicale… idiopathique de la femme?

… mais une efficacité bien modeste

Anticholinergic Drugs for Adult Neurogenic Detrusor Overactivity: A Systematic Review and Meta-analysis

Priya Madhuvrata [a,*], Manju Singh [a], Zaid Hasafa [b], Mohamed Abdel-Fattah [c]

EUROPEAN UROLOGY 62 (2012) 816–830

Réduction du nombre de fuites par urgenturie/24 h: -1.08 à 0.4
Réduction du nombre de mictions/24 h: -1.3 à 0.54
Réduction du nombre d'urgenturie/24 h: -1.56 à 0.64

Augmentation du volume par miction: jusqu'à 39.52 ml

Mais importance ++ de l'effet placebo (jusqu'à 41%)

Reste t'il une place aux anticholinergiques dans l'hyperactivité vésicale… idiopathique de la femme?

Une tolérance médiocre

… avec un fort taux d'abandon

Clinical Therapeutics/Volume 35, Number 11, 2013

Long-Term Patterns of Use and Treatment Failure With Anticholinergic Agents for Overactive Bladder

Michael B. Chancellor, MD[1]; Kristen Migliaccio-Walle, BS[2]; Thomas J. Bramley, PhD[2]; Sham L. Chaudhari, MS[2]; Catherine Corbell, PhD[3]; and Denise Globe, PhD[3]

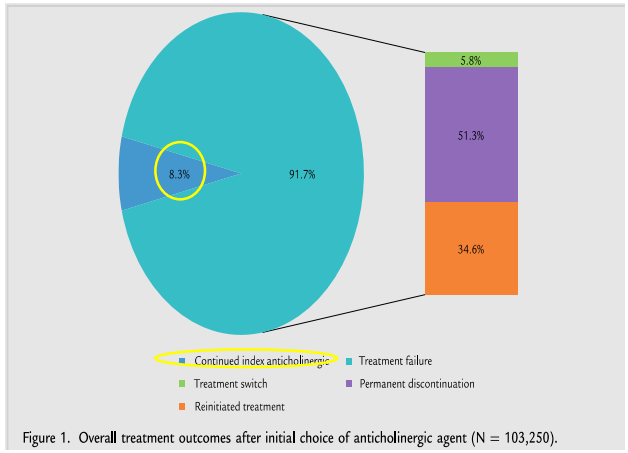


Figure 1. Overall treatment outcomes after initial choice of anticholinergic agent (N = 103,250).

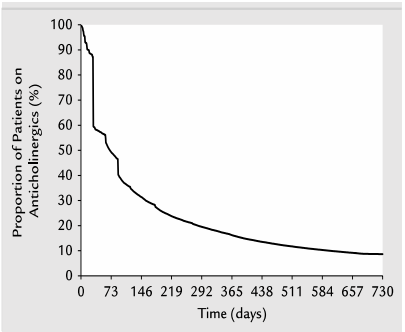


Table III. Association between treatment choice, compliance, and failure outcomes.

Drug or Drug Category	n	Adherence ≥80%	Treatment Failure Overall (%)	Discontinuations (%)	Switch (%)	Reinitiation (%)
Tolterodine ER	43,902	51.1	90.4	84.7	5.7	34.1
Solifenacin	15,533	49.4	90.4	85.2	5.2	35.6
Oxybutynin oral	15,111	30.1	95.8	91.1	4.7	33.4
Darifenacin	10,578	51.9	91.7	85.7	6.0	33.9
Oxybutynin ER	10,350	51.8	90.6	84.0	6.7	34.2
Tolterodine	2601	42.6	94.7	85.1	9.7	36.3
Trospium	2510	42.4	95.0	88.1	6.9	41.5
Oxybutynin TD	2246	43.4	96.3	88.8	7.5	39.5
Trospium ER	419	54.3	93.6	87.1	6.4	36.3
Overall	103,250	48.1*	91.7	85.9	5.8	34.6

Table IV. Treatment failure over time. Unless otherwise noted, values are given as number (%).

Patient No.	3 Months	6 Months	12 Months	18 Months	24 Months
N in each period (divisor)*	103,250	103,250	103,250	103,250	103,250
Treatment failures	51,073 (49.5)	73,267 (71.0)	86,105 (83.4)	91,754 (88.9)	94,683 (91.7)
Switched	3634 (3.5)	4241 (4.1)	5128 (5.0)	5638 (5.5)	5979 (5.8)
Discontinued	47,439 (45.9)	69,026 (66.9)	80,977 (78.4)	86,116 (83.4)	88,704 (85.9)
Restarted	3814 (3.7)	12,817 (12.4)	24,834 (24.1)	31,407 (30.4)	35,723 (34.6)
Discontinued permanently	43,625 (42.2)	56,209 (54.4)	56,143 (54.4)	54,709 (53.0)	52,981 (51.3)

Long-Term Adherence to Antimuscarinic Therapy in Everyday Practice: A Systematic Review

THE JOURNAL OF UROLOG
© 2014 by AMERICAN UROLOGICA

Paul W. Veenboer*,† and J. L. H. Ruud Bosch‡

Taux de maintien

à 12 mois: 12.0% à 39.4
à 18 mois, 8.0% to 15.0% and 6.0% to 12.0% at 24
à 24 mois, 6 à 12%
À 36 mois, 0.0% (darifenacine) à 16.0% (trospium).

Facteurs de risque d'arrêt de traitement: âge jeune, oxybutynine, libération immédiate

Reste t'il une place aux anticholinergiques dans l'hyperactivité vésicale… idiopathique de la femme?

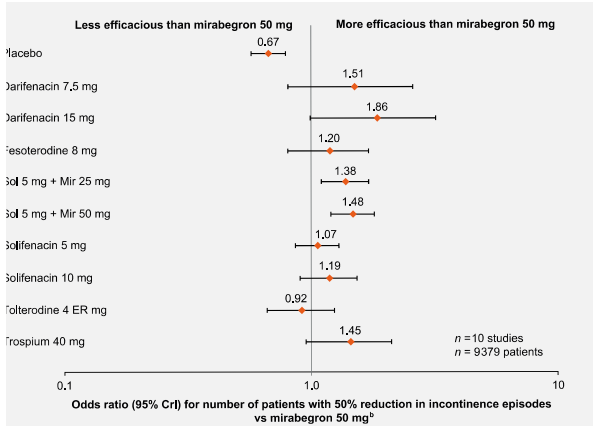
À l'heure des Beta 3 adrenergiques??

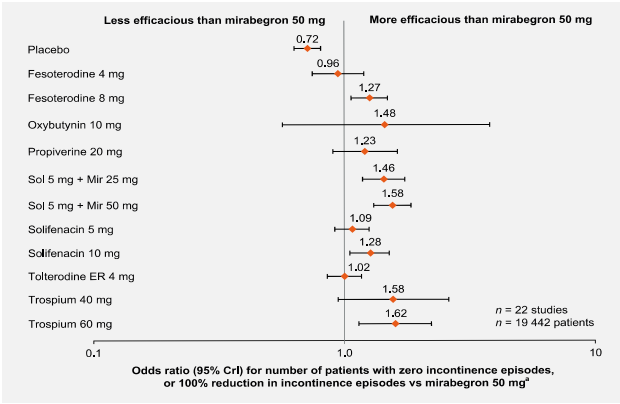
Efficacy and Tolerability of Mirabegron Compared with Antimuscarinic Monotherapy or Combination Therapies for Overactive Bladder: A Systematic Review and Network Meta-analysis

EUROPEAN UROLOGY 74 (2018) 324–333

Con Kelleher [a,*], Zalmai Hakimi [b], Richard Zur [c], Emad Siddiqui [d], Khaled Maman [e], Samuel Aballéa [f], Jameel Nazir [d], Chris Chapple [g]

64 études, 2002/2017, >45000 patients





Conclusions: The relief of key OAB symptoms produced by mirabegron 50 mg is significantly better than placebo, and similar to a range of common antimuscarinics, with the benefit of significantly fewer bothersome anticholinergic side effects such as dry mouth. Combination treatment of solifenacin 5 mg plus mirabegron 25 or 50 mg appears to provide an efficacy benefit compared with mirabegron 50 mg, with the expected side effects of individual antimuscarinics.

A retrospective study of treatment persistence and adherence to mirabegron versus antimuscarinics, for the treatment of overactive bladder in Spain

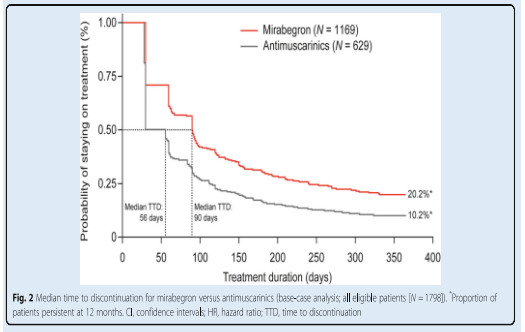


Fig. 2 Median time to discontinuation for mirabegron versus antimuscarinics (base-case analysis, all eligible patients [N = 1798]). *Proportion of patients persistent at 12 months. CI, confidence intervals; HR, hazard ratio; TTD, time to discontinuation

Mirabegron

Recommendation	GR
Offer mirabegron to people with urgency urinary incontinence, but warn patients receiving mirabegron that the possible long-term side effects remain uncertain.	B

Reste t'il une place aux anticholinergiques dans l'hyperactivité vésicale… idiopathique de la femme?

À l'heure de la toxine??

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Incontinence
Editorial on pp. x–y of this issue

Efficacy and Safety of Low Doses of Botulinum Toxin Type A for the Treatment of Refractory Idiopathic Overactive Bladder: A Multicentre, Double-Blind, Randomised, Placebo-Controlled Dose-Ranging Study

Pierre Denys[a,], Loïc Le Normand[b], Idir Ghout[c], Pierre Costa[d], Emmanuel Chartier-Kastler[e], Philippe Grise[f], Jean-François Hermieu[g], Gérard Amarenco[h], Gilles Karsenty[i], Christian Saussine[j], Frédéric Barbot[c] for the VESITOX study group in France[1]*

[a]Department of Physical Medicine and Rehabilitation, Raymond Poincaré Hospital, AP-HP, CIC-IT, EA 4501, University of Versailles Saint Quentin, France; [b]Department of Urology, Hôtel-Dieu University Hospital, Nantes, France; [c]Department of Clinical Research Unit, Hôpital Ambroise Paré, AP-HP, Paris-Ouest, Boulogne, France; [d]Department of Uro-Andrology, Carémeau University Hospital, Nîmes, France; [e]Department of Urology, Pitié Salpêtrière Hospital, AP-HP, Medical School Pierre and Marie Curie, University Paris VI, Paris, France; [f]Department of Urology, Rouen University Hospital, Rouen, France; [g]Department of Urology, Bichat University Hospital, AP-HP, Paris, France; [h]Department of Physical Medicine and Rehabilitation, AP-HP, Rothschild Hospital, Paris, France; [i]Department of Urology, AP-HM La Conception University Hospital, Marseille, France; [j]Department of Urology, Strasbourg University Hospital – Civil Hospital, Strasbourg, France

EUROPEAN UROLOGY 64 (2013) 249–256

available at www.sciencedirect.com
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European Association of Urology

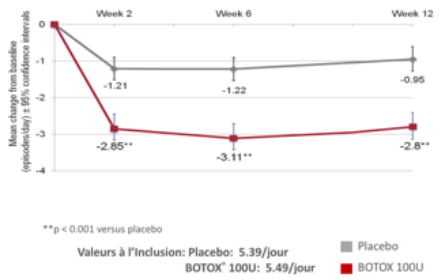
Platinum Priority – Incontinence
Editorial by Stephan Madersbacher on pp. 257–259 of this issue

OnabotulinumtoxinA 100 U Significantly Improves All Idiopathic Overactive Bladder Symptoms and Quality of Life in Patients with Overactive Bladder and Urinary Incontinence: A Randomised, Double-Blind, Placebo-Controlled Trial

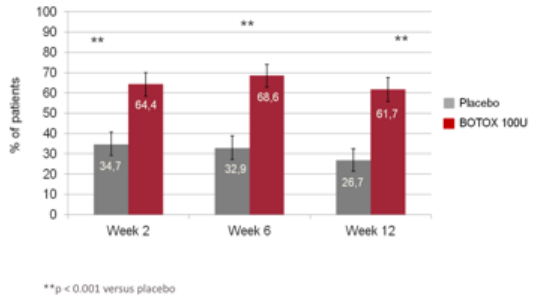
Christopher Chapple[a,], Karl-Dietrich Sievert[b], Scott MacDiarmid[c], Vik Khullar[d], Piotr Radziszewski[e], Christopher Nardo[f], Catherine Thompson[g], Jihao Zhou[f], Cornelia Haag-Molkenteller[f]*

[a]Royal Hallamshire Hospital, Sheffield, UK; [b]University of Tuebingen, Tuebingen, Germany; [c]Alliance Urology Specialists, Greensboro, NC, USA; [d]Imperial College, London, UK; [e]Department of Urology, Medical University of Warsaw, Warsaw, Poland; [f]Allergan, Inc., Irvine, CA, USA; [g]Allergan Ltd., Marlow, UK

1er critère Principal: changement par rapport à l'inclusion du nombre quotidien d'épisodes d'incontinence urinaire



2ème critère principal: patients avec une réponse positive sur l'échelle "Treatment Benefit Scale"*



* Réponse positive: patients "améliorés" et "très améliorés"

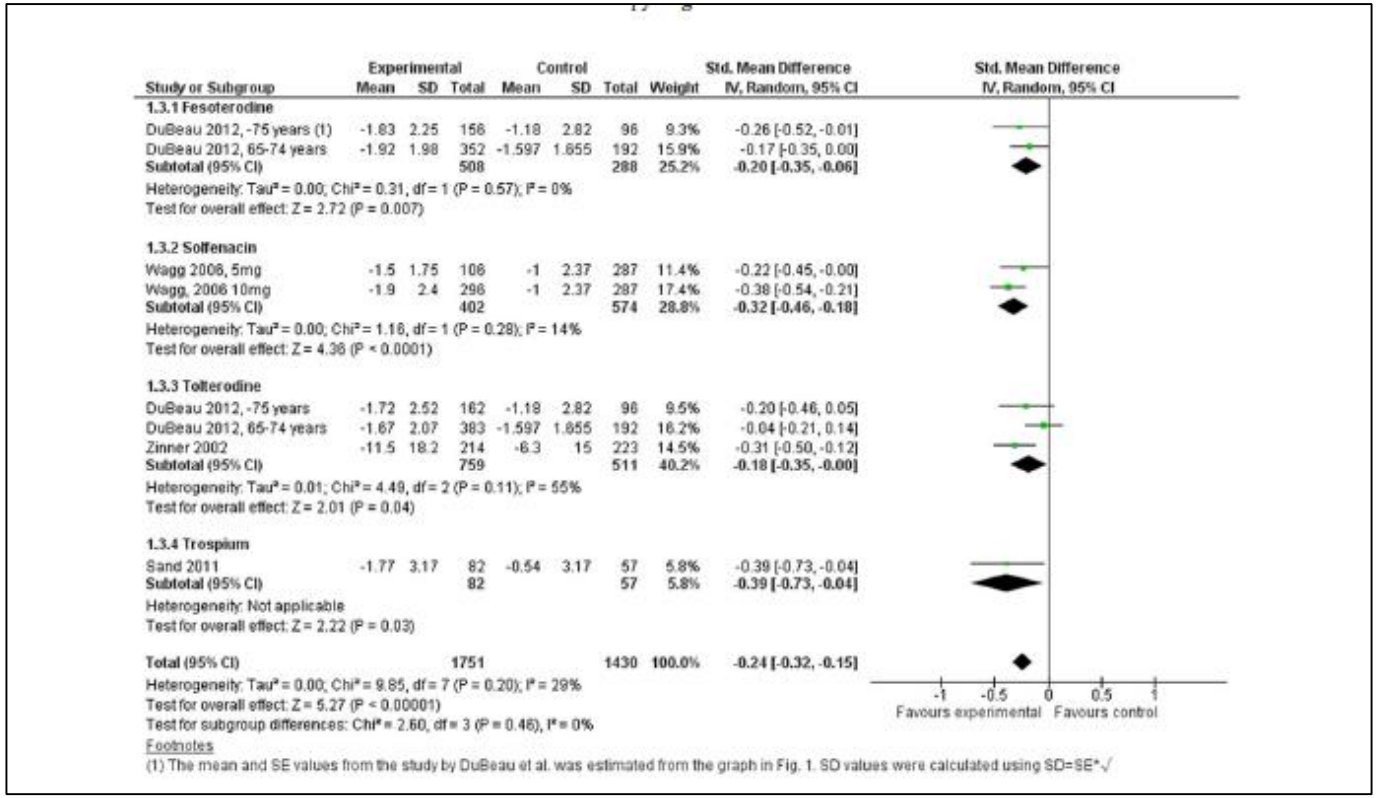
Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale… de la personne âgée

Geriatr Gerontol Int 2015; **15:** *521–534*

REVIEW ARTICLE

Effect of pharmacological treatment for urinary incontinence in the elderly and frail elderly: A systematic review

Eva Samuelsson,[1] Jenny Odeberg,[2] Karin Stenzelius,[3] Ulla Molander,[4] Margareta Hammarström,[5] Karin Franzen,[6] Gunnel Andersson[6] and Patrik Midlöv[7]



Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
1.3.1 Fesoterodine								
DuBeau 2012, -75 years (1)	-1.83	2.25	156	-1.18	2.82	96	9.3%	-0.26 [-0.52, -0.01]
DuBeau 2012, 65-74 years	-1.92	1.98	352	-1.597	1.655	192	15.9%	-0.17 [-0.35, 0.00]
Subtotal (95% CI)			508			288	25.2%	**-0.20 [-0.35, -0.06]**
Heterogeneity: Tau² = 0.00; Chi² = 0.31, df = 1 (P = 0.57); I² = 0%								
Test for overall effect: Z = 2.72 (P = 0.007)								
1.3.2 Solfenacin								
Wagg 2006, 5mg	-1.5	1.75	106	-1	2.37	287	11.4%	-0.22 [-0.45, -0.00]
Wagg, 2006 10mg	-1.9	2.4	296	-1	2.37	287	17.4%	-0.38 [-0.54, -0.21]
Subtotal (95% CI)			402			574	28.8%	**-0.32 [-0.46, -0.18]**
Heterogeneity: Tau² = 0.00; Chi² = 1.16, df = 1 (P = 0.28); I² = 14%								
Test for overall effect: Z = 4.38 (P < 0.0001)								
1.3.3 Tolterodine								
DuBeau 2012, -75 years	-1.72	2.52	162	-1.18	2.82	96	9.5%	-0.20 [-0.46, 0.05]
DuBeau 2012, 65-74 years	-1.67	2.07	383	-1.597	1.655	192	16.2%	-0.04 [-0.21, 0.14]
Zinner 2002	-11.5	18.2	214	-6.3	15	223	14.5%	-0.31 [-0.50, -0.12]
Subtotal (95% CI)			759			511	40.2%	**-0.18 [-0.35, -0.00]**
Heterogeneity: Tau² = 0.01; Chi² = 4.49, df = 2 (P = 0.11); I² = 55%								
Test for overall effect: Z = 2.01 (P = 0.04)								
1.3.4 Trospium								
Sand 2011	-1.77	3.17	82	-0.54	3.17	57	5.8%	-0.39 [-0.73, -0.04]
Subtotal (95% CI)			82			57	5.8%	**-0.39 [-0.73, -0.04]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 2.22 (P = 0.03)								
Total (95% CI)			1751			1430	100.0%	**-0.24 [-0.32, -0.15]**
Heterogeneity: Tau² = 0.00; Chi² = 9.85, df = 7 (P = 0.20); I² = 29%								
Test for overall effect: Z = 5.27 (P < 0.00001)								
Test for subgroup differences: Chi² = 2.60, df = 3 (P = 0.46), I² = 0%								

Std. Mean Difference IV, Random, 95% CI

-1 -0.5 0 0.5 1

Favours experimental Favours control

Footnotes

(1) The mean and SE values from the study by DuBeau et al. was estimated from the graph in Fig. 1. SD values were calculated using SD=SE*√

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale… de la personne âgée

Y compris chez les sujets âgés fragiles

Key Points

Overactive bladder (OAB) and urgency incontinence are associated with a profound deterioration in the quality of life of older people, contributing to isolation, loneliness, an increased likelihood of institutionalisation and significant adverse health-related consequences.

Data from available randomised clinical trials support the use of pharmacotherapy for OAB in older patients and lead to reported major improvements in quality of life associated with treatment.

In the light of evidence of successful treatment and plentiful data on OAB-associated morbidity, a nihilistic, supposedly risk-free attitude to treatment of OAB in the elderly should not be countenanced.

Drugs & Aging (2018) 35:777–780

Y compris chez les déments

TABLE 1. Comparison of AChEI-Only Users and Concomitant Users of AChEI and UA at the Baseline Among Persons With AD

		AChEI-Only Users (n = 18,951), n (%)	Concomitant Users of AChEI and UA (n = 1491), n (%)	P*
Age, y				<0.0001
	<65	585 (3)	32 (2)	
	65–74	3391 (18)	315 (21)	
	75–84	10,917 (58)	898 (60)	
	≥85	4058 (21)	246 (17)	
Sex				<0.001
	Male	6186 (33)	566 (38)	
	Female	12,765 (67)	925 (62)	
Comorbidities				
	Cardiovascular disease†	9666 (51)	764 (51)	0.8609
	Diabetes	2500 (13)	240 (16)	0.0015
	Asthma/COPD	1434 (8)	109 (7)	0.7183
	Hypothyreosis	974 (5)	83 (6)	0.4733
	Rheumatoid arthritis and disseminated connective tissue diseases	764 (4)	68 (5)	0.3193
	Epilepsy	554 (3)	47 (3)	0.6144
	Parkinson disease	507 (3)	81 (5)	<0.0001
	Prostatic cancer	386 (2)	51 (3)	0.0004
Time from AD diagnosis, y				0.2792
	<1	4565 (24)	384 (26)	
	1–2	5287 (28)	429 (29)	
	>2–3	4087 (22)	303 (20)	
	>3	5012 (26)	375 (25)	

*χ^2 Test.
†Chronic heart failure, arterial hypertension, coronary artery disease, or chronic arrhythmia (or combination of those).

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale…de la personne âgée

Mais, les inconvénients sont supérieurs aux bénéfices….

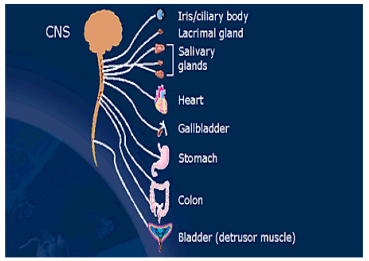
Long-Term Exposure to Anticholinergic and Sedative Medications and Cognitive and Physical Function in Later Life

Journals of Gerontology: Medical Sciences
s: *J Gerontol A Biol Sci Med Sci*, 2019, Vol. XX, No. XX, 1–9

Results: Longitudinal associations were found of the DBI with poorer cognitive functioning (less items correct on the three ACT trials, AVLT learning condition, and the two RCPM trials) and with poorer physical functioning (longer completion time on the CT, CST, and lower self-reported FI).

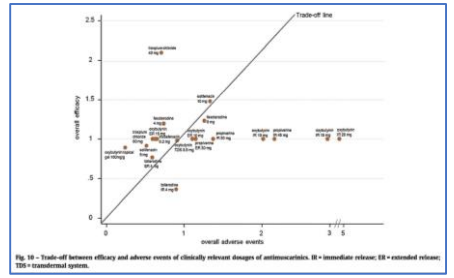
Conclusions: This longitudinal analysis of data collected over 20 years, showed that higher long-term cumulative exposure to anticholinergic and sedative medications was associated with poorer cognitive and physical functioning.

Charge anticholinergique



DBI Results (Note: This scale, unlike the above, considers drug dose prescribed in the calculation)

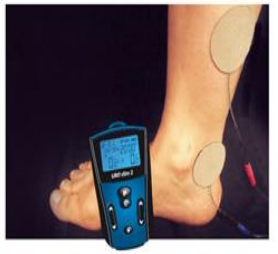
Medication		DBI
DIGOXIN		0.00
FUROSEMIDE		0.00
WARFARIN		0.00
ATORVASTATIN		0.00
ALPRAZOLAM (0.25 mg)		0.33
CODEINE (90 mg)		0.76
HYDROXYZINE (25 mg)		0.50
TRAMADOL (100 mg)		0.40
Results	HIGH RISK	1.99



Long-term antimuscarinic treatment should be used with caution in elderly patients especially those who are at risk of, or have, cognitive dysfunction.	Strong

Burkhad FC, *et al.* Guidelines on Urinary Incontinence. European Association of Urology 2017

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale… de la personne âgée



Et, il y a des alternatives, efficaces et mieux tolérées… : stimulation tibiale postérieure

Efficacy of posterior tibial nerve stimulation (PTNS) on overactive bladder in older adults

C. Hentzen[1,3] · R. Haddad[2,3] · S. Sheikh Ismaël[1,3] · C. Chesnel[1,3] · G. Robain[2,3] · G. Amarenco[1,3] · GRAPPPA, Clinical research Group of perineal dysfunctions in older adults

European Geriatric Medicine (2018) 9:249–253

Results A total of 264 patients were included (mean age 74.1 ± 6.5 years; 63.3% of women), of whom 53% had neurogenic OAB. Urinary incontinence was reported by 83.7% of patients and DO was found on urodynamic studies in 154 patients. The overall efficacy of TPTNS was 45.1%. None of the tested factors were significantly predictive of efficacy, especially age (≥ 75 years, $p = 0.62$), associated stress urinary incontinence ($p = 0.69$) and presence of DO ($p = 0.60$), whether neurogenic or not.

Conclusion TPTNS is an effective treatment in older patients with OAB syndrome. No predictive factors of efficacy were found, especially age and DO. This treatment seems to be a good alternative to antimuscarinics against overactive bladder

A Feasibility Study of Transcutaneous Posterior Tibial Nerve Stimulation for Bladder and Bowel Dysfunction in Elderly Adults in Residential Care

Joanne Booth PhD, RN[a,*], Suzanne Hagen PhD[b], Doreen McClurg PhD[b], Christine Norton PhD, RN[c], Carolyn MacInnes MSc, RN[d], Brigitte Collins MSc, RN[e], Cam Donaldson PhD[f], Debbie Tolson PhD, RN[a]

Design: Pilot randomized single-blind, placebo-controlled trial.
Setting: Seven residential care homes and 3 sheltered accommodation complexes in the United Kingdom.
Participants: Thirty care home residents aged 65 and older with urinary or bowel symptoms and/or incontinence.
Interventions: Twelve 30-minute sessions of TPTNS or sham stimulation (placebo).
Measurements: Lower urinary tract symptoms using American Urological Society Symptom Index, urinary incontinence using International Consultation on Incontinence Questionnaire-Short Form (ICIQ-SF), postvoid residual urine volumes using portable bladder scanning, bowel symptoms and fecal incontinence using selected ICIQ questions.
Results: Total American Urological Society Symptom Index scores improved, showing a median reduction of 7 (interquartile range [IQR] −8 to −3) in the TPTNS group and a median increase in the sham stimulation (placebo) group of 1 (IQR −1 to 4) (Mann-Whitney U 16.5000, Z −3.742, $P < .001$). Total ICIQ-SF scores improved by a median of 2 (IQR −6 to 0) in the TPTNS group and 0 points (IQR −3 to 3) in the sham stimulation group (Mann-Whitney U 65.000, Z −1.508, $P = .132$). Significant reduction was found in postvoid residual urine of 55 mL in the TPTNS group (t = −2.215, df 11.338,

Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale… de la personne âgée

Et, il y a des alternatives, efficaces et mieux tolérées… : Beta 3 adrenergiques, Toxine botulique

ORIGINAL ARTICLE
EPIDEMIOLOGY, CLINICAL PRACTICE AND HEALTH

Safety and therapeutic efficacy of mirabegron 25 mg in older patients with overactive bladder and multiple comorbidities

Yu Khun Lee and Hann-Chorng Kuo

Table 2 Changes in overactive bladder symptom score and variables from baseline to 3 months for the younger and older patient groups

		Baseline	Treated 1 month	Treated 3 months	Mean changes from baseline to 3 months	*P*-value
IPSS-V	Older	5.95 ± 5.51	5.51 ± 5.29	4.41 ± 5.01*	−1.67 ± 5.91	0.034**
	Younger	5.33 ± 5.54	4.52 ± 4.87	4.08 ± 5.41	−1.46 ± 3.91	
IPSS-S	Older	6.06 ± 3.38	5.07 ± 2.69*	5.06 ± 2.45	−0.67 ± 3.53	0.175
	Younger	5.93 ± 3.46	4.62 ± 2.55*	4.67 ± 3.28	−0.04 ± 2.76	
IPSS-T	Older	11.95 ± 6.91	10.60 ± 6.18*	9.37 ± 5.83*	−2.33 ± 7.55	0.057
	Younger	11.27 ± 7.53	9.13 ± 5.87*	8.75 ± 7.75	−1.50 ± 4.94	
QoL-I	Older	3.03 ± 1.31	2.53 ± 1.07*	2.16 ± 0.99*	−0.71 ± 1.46	0.276
	Younger	3.63 ± 1.43	2.52 ± 1.24*	1.95 ± 0.92*	−0.95 ± 1.24	
Qmax (mL/s)	Older	9.37 ± 5.43	9.78 ± 5.83	9.28 ± 6.91	0.13 ± 4.99	0.029**
	Younger	18.5 ± 12.4	19.6 ± 13.8	19.8 ± 11.6	0.57 ± 8.11	
Volume (mL)	Older	135 ± 105	130 ± 95	153.6 ± 123	7.91 ± 106.71	0.126
	Younger	241 ± 150	263 ± 180	314 ± 206	12.79 ± 179.58	
PVR (mL)	Older	78.5 ± 93.2	54.0 ± 65.0*	51.0 ± 84.6*	−33.25 ± 102.96	0.028**
	Younger	36.5 ± 70.9	5.8 ± 32.5	43.1 ± 78.9	2.67 ± 37.38	
Nocturia (/night)	Older	3.79 ± 1.12	3.53 ± 1.26*	3.59 ± 1.30	−0.18 ± 1.14	0.005**
	Younger	3.28 ± 1.40	2.88 ± 1.29*	3.00 ± 1.16	−0.12 ± 1.74	
OABSS	Older	5.95 ± 3.79	5.16 ± 3.04*	5.17 ± 3.12	−0.48 ± 4.09	0.422
	Younger	5.73 ± 3.48	4.49 ± 2.85*	5.52 ± 3.40	0.70 ± 3.44	
USS	Older	2.09 ± 1.93	1.88 ± 1.94	1.58 ± 1.89	−0.39 ± 2.45	0.018**
	Younger	1.92 ± 1.81	1.41 ± 1.74*	1.48 ± 1.76	−0.30 ± 1.46	
PPBC	Older	2.73 ± 1.87	2.16 ± 1.55*	1.76 ± 1.35*	−0.73 ± 1.94	0.551
	Younger	3.66 ± 1.72	2.44 ± 1.62*	1.96 ± 1.11*	−1.00 ± 1.71	

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BRIEF REVIEW

Oral pharmacotherapy for overactive bladder in older patients: mirabegron as a potential alternative to antimuscarinics

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Résultats

TBA pourrait être proposée chez le sujet âgé sans critère de fragilité dans la prise en charge de l'HAV,
taux de succès comparable aux patients jeunes à 3 mois (88,9 % vs 91,2 %), 6 mois (49,4 % vs 52,1 %) et 12 mois (23,1 % vs 22,3 %), et une diminution significative du nombre de mictions quotidiennes (11,4 vs 5,29 $p < 0,001$) et du nombre de protections quotidiennes (4,0 vs 1,3, $p < 0,01$).
Pourrait par ailleurs bientôt être proposée dans la prise en charge de la dyschésie ano-rectale et de l'IF

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Reste t'il une place au traitement anticholinergique dans l'hyperactivité vésicale?

Chez l'enfant, oui, car non invasive et efficace,
en attendant les études contrôlées versus neurostimulation tibiale postérieure dans certaines populations

Chez la personne âgée, peu d'arguments pour,
privilégier la neurostimulation tibiale

Chez la femme idiopathique:
légitime d'essayer en première intention et de poursuivre si efficace et toléré,
aspect économique versus beta 3,

Le neurologique, reste une première intention
ratio bénéfice inconvénient à long terme limité si indication organique (hautes pressions détruisit)
Place encore légitime par sa simplicité dans situations fonctionnelles