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HOW LONG CAN ANTIMUSCARINIC TREATMENT BE EFFECTIVE IN TREATMENT OF OVERACTIVE BLADDER – ANALYSIS OF THE PREDICTIVE FACTORS

Hypothesis / aims of study

Knowledge about the time interval required and predictors for antimuscarinic treatment to be effective is important for clinical counselling and treatment of choice. Thus, the aim of this study is to estimate the time interval required and predictors for antimuscarinic treatment to be effective.

Study design, materials and methods

All patients with overactive bladder syndrome (OAB) who visited a urologic outpatient clinics of a tertiary referral center, and received either solifenacin 5 mg or tolterodine ER 4 mg once a day were enrolled prospectively in this study. Patients were asked to be followed up in our clinics at the interval of 2 weeks, 4 weeks, 3 months and 6 months during the treatment period. Patients who had been treated with antimuscarinics and followed up at at least one post treatment visit were eligible for analysis. All enrolled patients were requested to complete the Patient Perception of Bladder Condition (PPBC), Overactive Bladder Symptom Score (OABSS) and the modified Indevus Urgency Severity Scale (USS) questionnaires, as well undergo uroflowmetry and postvoid residual urine testing. Besides, the parameters of total prostate volume (TPV) and transition zone index (TZI) and medical co-morbidities were obtained. A decrease of at least 3 in OABSS scores from baseline was defined as responsiveness to antimuscarinic treatment [1].

Results

A total of 117 patients enrolled in this study. Baseline data was tabulated in Table 1. The median treatment interval was 1 month (25-75 percentile range: 0.5-3 months). Sixty-one (52.1%; 95% CI = 43.0 to 61.3%) patients became responsiveness to antimuscarinic treatment during the treatment period. The median interval for occurrence of responsiveness was 3 months (95% confidence interval: 1 to 6 months, Fig. 1). Univariate Cox proportional-hazards model revealed that the presence of OAB-wet, higher PPBC, OABSS, USS scores were associated responsiveness. However, multivariate Cox proportional-hazards model revealed only higher OABSS scores was an independent predictor for responsiveness (Table 1).

Interpretation of results

We successful identify that 3 months was the median interval of responsiveness for antimuscarinic treatment. Thus, we can treat OAB patients for at least 3 months to achieve responsiveness. If responsiveness cannot achieve after 3 months' antimuscarinic treatment, it is reasonable to choose alternative treatment. However, it may take longer time to achieve responsiveness in patients with lower OABSS scores.

Concluding message

The median interval for the occurrence of responsiveness was 3 months, and OABSS was the solitary independent predictor for effectiveness of antimuscarinic treatment.

Table 1. Cox proportional-hazards model for predicting responsiveness of antimuscarinic treatment (n=117)

		Univariate		Multivariate	
Variable	Baseline	Hazard ratio	P	Hazard ratio	P
Age (years)	70.7±13.2	0.99 (0.98~1.01)	0.53	-	-
Male	75 (64)	0.88 (0.52~1.48)	0.62	-	-
OAB-wet	94 (80)	5.51 (1.72~17.6)	0.004	0.33 (0.04~2.62)	0.30
Treatment					
Solifenacin	100 (85)	1.18 (0.56~2.50)	0.66	-	-
Tolterodine	17 (15)				
Diabetes mellitus	19 (16)	1.18 (0.62~2.28)	0.61	-	-
Hypertension	29 (25)	0.92 (0.50~1.67)	0.78	-	-
Heart failure	4 (3)	0.00 (0~-)	1.00	-	-
CRF	7 (6)	0.84 (0.26~2.69)	0.77	-	-
Stroke	10 (9)	0.80 (0.32~2.02)	0.64	-	-
Parkisonism	5 (4)	1.24 (0.39~3.96)	0.72	-	-
BPH	63 (84)	0.88 (0.39~2.01)	0.76	-	-
BOO	2 (2)	0.87 (0.12~6.27)	0.89	-	-
PPBC	3.7±1.7	1.27 (1.06~1.51)	0.008	1.00 (0.80~1.26)	0.98
OABSS	8.6±3.7	1.19 (1.11~1.29)	<0.001	1.19 (1.04~1.35)	0.009
USS	3.4±1.3	2.47 (1.33~4.59)	0.004	2.57 (0.88~7.50)	0.08
IPSS-V	5.9±5.6	0.99 (0.95~1.04)	0.80	-	-
IPSS-S	7.8±3.5	1.07 (1.00~1.15)	0.06	0.93 (0.85~1.02)	0.12
TPV (mL)	41.6±18.3	0.99 (0.97~1.01)	0.46	-	-
TZI (%)	32.5±13.2	2.42 (0.12~49.97)	0.57	-	-
Qmax (mL/s)	13.4±8.0	1.00 (0.96~1.03)	0.90	-	-
VV (mL)	172±102	1.00 (0.997~1.002)	0.64	-	-
PVR (mL)	46.5±58.7	1.00 (0.996~1.004)	0.95	-	-

†Values were expressed as n (percentage), mean±standard deviation, hazard ratio (95% confidence interval).
‡BOO: bladder outlet obstruction; BPH: benign prostate hyperplasia; CRF: chronic renal failure; IPSS: international prostate symptom score; IPSS-S: IPSS storage subscore; IPSS-V: IPSS voiding subscore; OAB: overactive bladder; OABSS: Overactive Bladder Symptom Score; PPBC: patient perception of bladder condition; PVR: postvoidal residual; Qmax: maximum flow rate; TPV: total prostate volume; TZI: transition zone index; USS: Indevus Urgency Severity Score; VV: voided volume.

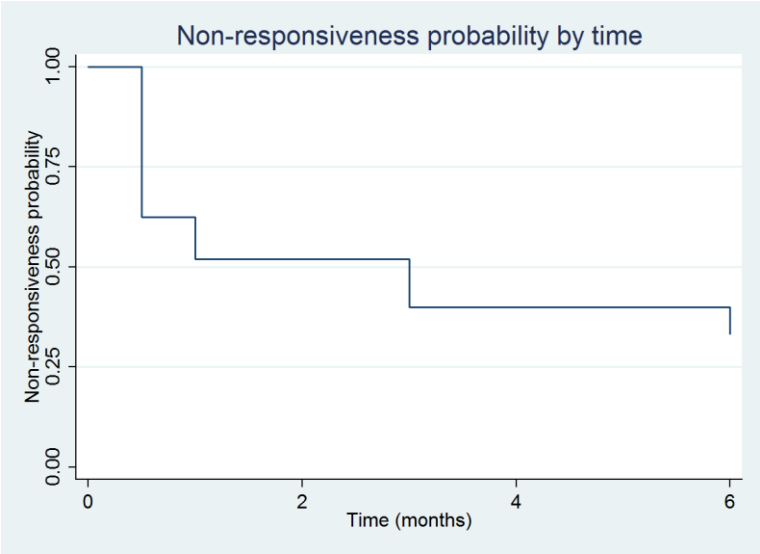

Fig. 1. Non-responsiveness probability by time.

References

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