

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

Sheng-Mou Hsiao<sup>1</sup>, Chun-Hou Liao<sup>2</sup>, Hann-Chorng Kuo<sup>3\*</sup>

1. Department of Obstetrics and Gynecology, Far Eastern Memorial Hospital, New Taipei, Taiwan,  
 2. Department of Urology, Cardinal Tien Hospital and School of Medicine, Fu-Jen Catholic University, New Taipei, Taiwan,  
 3. Department of Urology, Buddhist Tzu Chi General Hospital and Tzu Chi University, Hualien, Taiwan

## Hypothesis / aims of study

To estimate the time interval required and predictors for antimuscarinic treatment to be effective.

## Study design, materials and methods

All OAB patients 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. A decrease of at least 3 in OABSS scores from baseline was defined as responsiveness to antimuscarinic treatment.

## 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). Multivariate Cox proportional-hazards model revealed only higher OABSS scores was an independent predictor for responsiveness.

## Interpretation of results

We successfully 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 predictor for effectiveness of antimuscarinic treatment.

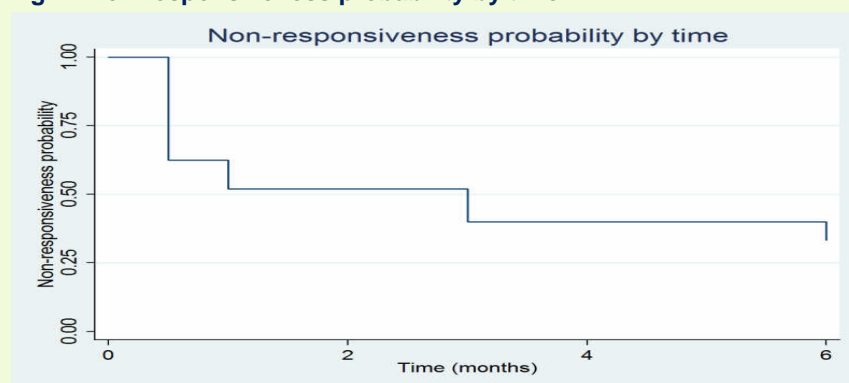
**Table 1. Cox proportional-hazards model for predicting responsiveness of antimuscarinic treatment (n=117)**

Variables	Baseline	Univariate		Multivariate	
		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 Treatment	<b>94 (80)</b>	<b>5.51 (1.72~17.6)</b>	<b>0.004**</b>	0.33 (0.04~2.62)	0.30
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	-	-
Parkinsonism	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	<b>3.7±1.7</b>	<b>1.27 (1.06~1.51)</b>	<b>0.008**</b>	1.00 (0.80~1.26)	0.98
OABSS	<b>8.6±3.7</b>	<b>1.19 (1.11~1.29)</b>	<b>&lt;0.001***</b>	<b>1.19 (1.04~1.35)</b>	<b>0.009**</b>
USS	<b>3.4±1.3</b>	<b>2.47 (1.33~4.59)</b>	<b>0.004**</b>	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.**



佛教慈濟綜合醫院  
 BUDDHIST TZU CHI GENERAL HOSPITAL



亞東紀念醫院

Far Eastern Memorial Hospital