

#109 Are poor response and adverse events predictable following Botulinum toxin-A injections for refractory idiopathic overactive bladder?

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INTRODUCTION

- Botulinum Toxin-A (BTX-A OnabotulinumtoxinA, Allergan, Ltd) has been shown to be effective at treating refractory idiopathic OAB
 - Success rates vary between 60-80% ⁽¹⁾
- However, there are associated adverse events which include:
 - Voiding dysfunction necessitating catheterisation (CISC) affecting 6-45% of patients and Urinary Tract Infections affecting 0-45% ⁽²⁾
- Currently, there is limited data in the literature in predicting both response to BTX-A as well as adverse events

AIMS

- To identify patient factors that can be used to predict poor response after first time BTX-A injections in a cohort of patients with refractory idiopathic OAB
- To identify patient factors which can be used to predict adverse events (UTIs and voiding dysfunction)
- Predicting response and adverse events will allow for better patient selection and counselling

METHODS

- Single centre, retrospective analysis of a dedicated database of patients who received their first BTX-A injections (100-200 U) to treat symptoms of refractory overactive bladder and idiopathic detrusor overactivity
- 74 OAB patients (50 female and 24 male) had completed the UDI-6 questionnaire, filled in at baseline and at 4-6 weeks post-injection.
- < 16.7 reduction in score on UDI-6 indicates a poor response based on validation studies (MID) ⁽³⁾
- Occurrence of adverse events (UTIs and voiding dysfunction requiring CISC) were recorded from the database/ electronic patient records
- Data on baseline patient demographics, urodynamic parameters as well as past medical and surgical history of each patient was collated and recorded to see if any factor could be identified as a predictor of poor response or adverse events.
- Preliminary independent samples T-tests or Pearson's Chi-Square tests comparing various patient factors and outcomes were performed
- Subsequent univariate and multivariate logistic regression (forward stepwise method) analysis was performed to identify risk factors. Results were considered significant if P < 0.05 for a variable with a two-tailed test on multivariate analysis.
- Variables assessed were age, gender, diabetic status, prolapse surgery Hx, incontinence surgery Hx, hysterectomy status, menopausal status, prostate surgery Hx and BTX-A dosage.
- The baseline urodynamic parameters assessed were post-void residual volume (PVR), maximum cystometric capacity (MCC), maximum detrusor pressure (MDP), reflex detrusor volume (RDV), maximum urinary flow rate (Qmax), detrusor pressure at Qmax, bladder compliance (BC), projected isovolumetric pressure in females (PIP1) and bladder contractility index in males (BCI)

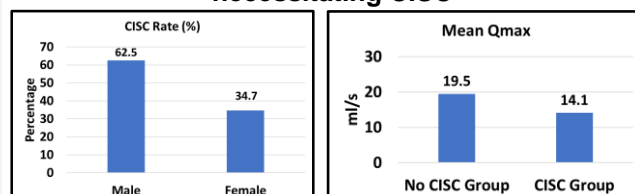
RESULTS

Only Significant Results Displayed

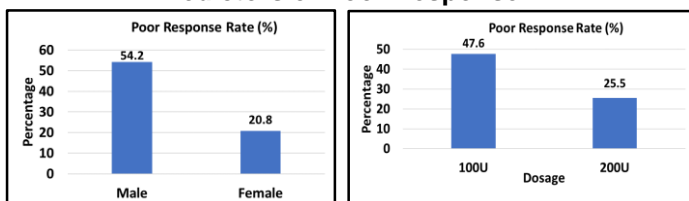
Frequency of Outcomes

Outcome	Overall Frequency (%)	Frequency by Gender (% within gender)	n
Poor Response	23 (31.9)	Male: 13 (54.2) Female: 10 (20.8)	72
CISC	32 (43.8)	Male: 15 (62.5) Female: 17 (34.7)	73
UTI	25 (34.2)	Male: 7 (29.2) Female: 18 (36.7)	73

Predictors of Voiding Dysfunction necessitating CISC



Predictors of Poor Response



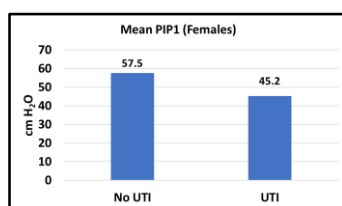
Multivariate Logistic Regression

Variable	OR for Poor Response (95% CI)	p-value	n
Gender (male)	5.45 (1.83- 16.47)	0.002	70

Multivariate Logistic Regression

Variable	Odds ratio for CISC (95% CI)	p-value	n
Qmax	0.91 (0.83- 0.99)	0.023	54
Gender (Male)	5.14 (1.41- 18.72)	0.013	54
Hysterectomy	4.55 (1.09-18.87)	0.038	47

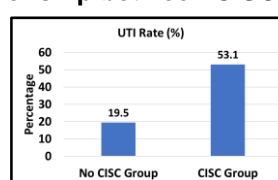
Predictors of UTIs



Multivariate Logistic Regression

Variable	Odds ratio for UTI (95% CI)	p-value	n
PIP1 (females only)	0.93 (0.87- 1.00)	0.050	33

Relationship between CISC and UTI



Multivariate Logistic Regression

Variable	Odds ratio (95% CI) for UTI	p-value	n
CISC	5.26 (1.38- 20.00)	0.015	50

CONCLUSIONS

- Men were at 5.45 times increased odds of having poor response compared to females in this cohort
- In terms of predicting adverse events, male sex and a lower baseline maximum urinary flow rate (Qmax) was associated with needing CISC. In addition, women post hysterectomy were at 4.6 increases odds of needing CISC post BTX-A compared to women without
- A lower PIP1 (a detrusor contractility variable measured in women) put women at higher risk of contracting a UTI post BTX-A
 - Patients requiring CISC were at a 5 times increased odds of contracting a UTI
- No relationship was found between adverse events and poor response meaning efficacy of BTX-A was independent of adverse events

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