

## LENGTHY ANTIBIOTIC TREATMENT TO RESOLVE RECALCITRANT OAB

### Hypothesis / aims of study

Should recalcitrant overactive bladder symptoms (OAB) be treated with lengthy oral antibiotic courses?

### Background

A number of recent publications have pointed out that a high proportion of patients with OAB symptoms exhibit pyuria on microscopy of a fresh unspun specimen of urine (1). This pathology goes undetected by routine MSU culture and urine dipstick analysis is even less revealing. The findings have been supported by detecting associated urinary cytokine abundance and microbial colonisation detected by advanced culture methods.

Should patients suffering from OAB, who are found to have microscopic pyuria, be treated with antibiotics despite negative dipsticks and MSU culture?

Given that a proportion of OAB patients experience incomplete responses to antimuscarinics and bladder retraining it was inevitable that, responding to the pyuria, we should treat them with urinary antibiotics (2). We identified a response but a lengthy process of trial and error taught us that surprisingly protracted treatment at full dose was necessary to achieve a lasting recovery. Having evolved an apparently reliable treatment protocol we took the first step towards a large RCT by affecting a formal observational study.

### Study design, materials and methods

The inclusion criteria were consenting adult females aged  $\geq 18$  years with symptoms of LUTS predominantly OAB, pyuria  $\geq 10$  white cells  $\mu\text{l}^{-1}$  and had a negative routine MSU culture.

The demographic data, age, sex and duration of symptoms were recorded. Their reported frequency and incontinence rate was recorded. Symptoms of urgency, voiding dysfunction, stress incontinence and pain were recorded using the validated question sets.

Resolution of OAB symptoms and clearance of pyuria were taken as the endpoints in this study.

### Results

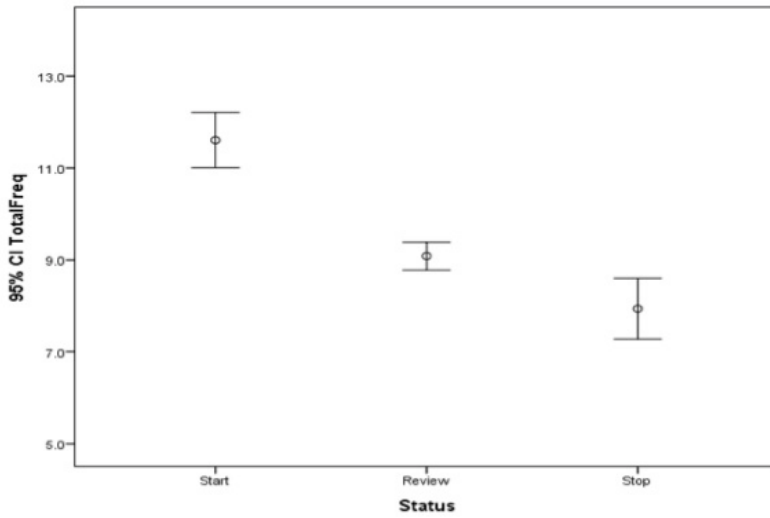
351 female patients attending this specialist tertiary level centre from January 2010 to December 2012 were included in the observational study. Mean age was 52.23 (95% CI 50 to 54)). They had suffered symptoms for a mean of 5 years (95%CI = 4.4 to 5.3). Their average 24-hour frequency was 12 (95%CI = 10 to 13) and average 24-hour incontinence 1 (95% CI 0.7 to 1.1).

Considering the four main categories of the ICS definition of LUTS, 37 symptoms that were assessed. 234 (67%) patients described at least one urge symptom; 122 (35%) had  $\geq 1$  stress symptoms, 212 (60%) had  $\geq 1$  voiding symptoms and 161 (46%) had  $\geq 1$  pain symptoms. The mean total number of symptoms was 8.5 (95% CI 8 to 9). Mean duration of treatment was 279 days (sd208, CI 254-262).

### Interpretation of results

Multinomial Logistic Regression analysis of the variables showed a significant reduction of 24 hr frequency (Fig 1), urgency symptoms, voiding and Log pyuria count both at review visit and at the end of the study.

**Fig1. Resolution of 24hr frequency on treating OAB patients with long term, high dose oral antibiotics**



Concluding message

This is a proof of concept study implying that infection underlies the pathology behind OAB symptoms and that significant symptoms resolution can be achieved by treating these patients with protracted, full dose oral antibiotic therapy.

References

1. N Eng J Med 2004;. 350:786- 799. 10
2. Gill.K, ICS Abstract 2011.

Disclosures

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