Reducing prophylactic antibiotic use for intradetrusor injections of Botulinum toxin

Simon Munro – Senior Biomedical Scientist, Microbiology
Basingstoke and North Hampshire Hospital, Aldermaston Road, Basingstoke, RG24 9NA, UK

1. BACKGROUND
Botulinum toxin (Botox) is used as an effective treatment for patients suffering with refractory overactive bladder. Patients attend a clinic at Basingstoke and North Hampshire Hospital, Hampshire Hospitals NHS Foundation Trust (HHFT) to receive injections of Botox to the detrusor muscle of their bladder via a cystoscopy.

As bacteriuria, the presence of bacteria in urine may reduce efficacy and lead to urinary tract infection (UTI). Antibiotic prophylaxis is commonly prescribed for patients undergoing this procedure. However, there is no National Institute for Health and Care Excellence (NICE) guidance to support this. Ciprofloxacin is the antibiotic prophylactically prescribed at HHFT. This is a broad-spectrum antibiotic, which does present other side effects, such as increasing the risk of C. difficile infection and causing muscle weakness.

2. AIM
To reduce prophylactic antibiotic use for intradetrusor injections of Botox in female patients attending a clinic in Basingstoke and North Hampshire Hospital by 75% by 2022.

3. METHOD
In a pilot study, a urine sample was collected on the day of the procedure from each of the patients before antibiotics were taken. Other information collected at this time included the appearance of the urine (clear or turbid) and results of a urine dipstick test. The urines were cultured by the Microbiology Department to assess for the growth of bacteria.

A literature review was conducted to determine the evidence base for and against antibiotic prophylaxis for intradetrusor injections of Botox.

4. RESULTS
The pilot study established the rate of asymptomatic bacteriuria in the patients assessed as 25%.

It also assessed the negative predictive value of urine appearance and dipstick test results to diagnose bacteriuria, which were 84% and 88% respectively.

5. CHANGES
Following the results of the pilot study, a further prospective study has been agreed to evaluate the risk of UTI when antibiotic prophylaxis is not given, in patients without risk factors.

Patients will have a urine collected 7 days before the procedure to investigate for bacteriuria.

A further follow up phone call will be also made at 6 weeks after the procedure. Patients will be advised to collect a sample 7 days after and will be followed up with a phone call to assess for UTI symptoms.

6. SUMMARY
Antibiotic prophylaxis may not be necessary but requires further investigation.

A follow-up study is ongoing until early 2022 to assess the safety of withholding prophylaxis in eligible patients.

Discussion of this subject has prompted suggestions for antibiotic stewardship in teams which were initially hesitant. Antibiotic stewardship, following evidence-based practice is necessary to prevent increasing antibiotic resistance.

Acknowledgements – Claire Thomas (Consultant Infectious Diseases/Clinical Microbiology) and Nivedita Gauthaman (Consultant Obstetrics & Urogynaecology) Basingstoke and North Hampshire Hospital, Aldermaston Road, Basingstoke, RG24 9NA.