Bacterial ecology and antibiotic resistance in patients with neurogenic overactive bladder treated by botulinum toxin injections

J. Levy *, F. le Breton, M. Jousse, R. Haddad, D. Verollet, A. Guinet-Lacoste, G. Amarenco
Hôpital Tenon, AP–HP, 4, rue de la Chine, 75020 Paris, France
*Corresponding author.
E-mail address: levyjonathan2@gmail.com

Keywords: Botulinum toxin A; Neurogenic overactive bladder; Multiple sclerosis; Spinal cord injury; Bacterial ecology; Antibiotic resistance

Botulinum toxin A is the gold standard treatment for the treatment of neurogenic overactive bladder. These patients mostly use clean intermittent self-catheterization. Colonisations are frequent and detrusor injections are at risk for infections.

Material and methods:— This prospective study took place from September to October 2012 in a neuro-urology unit in a university hospital. Eighty-one patients had a uroculture before the injection. They all had on overactive bladder confirmed by urodynamic study. We determined the prevalences of different bacteria and their resistance rate for each antibiotic class.

Results:— Forty-six bacteria were identified on 45 urocultures. An Escherichia coli was identified in 43.21%, 7.41% Klebsiella pneumoniae, 2.47% Citrobacter freundii and enterococcus, 1.23% Staphylococcus aureus. Penicillin resistance was found in 52.17%, to third generation cephalosporins in 10.87%, to fluoroquinolon in 28.26% and to sulfamid in 26.09%. There was no resistance for fosfomycin.

Discussion:— We found less colonisation rates than what’s described in the literature for patients using clean intermittent self catheterization (52% versus 60 to 70%). [1] There was no resistance to fosfomycin; however the benefit for systematic prophylaxis in case of sterile uroculture had never been proven (despite the recommendations for the French authorization of drug use in this indication.) [2]

Conclusion:— We found high frequency of E. coli in patients using clean intermittent catheterization. All bacteria were sensible to fosfomycine, which suggest its preferential use for probabilistic prophylaxis before botulinum injections for the treatment of neurogenic overactive bladder.

References