

Title: Patients with multiple sclerosis with recurrent emergency attendances and hospital admissions for urinary tract Infections

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Abstract

Introduction: Urinary tract infection (UTIs) are one of the commonest reasons for emergency attendances and admissions in patients with MS (PwMS). UTIs have a major impact on morbidity and quality of life, increase mortality risk and add considerable cost to the health system.

Aims: 1. Identify PwMS with UTI presentations to the emergency department and characterise features of their MS and UTIs; 2. Identify areas of management that can be improved to reduce UTI presentations; 3. Implement strategies in a multidisciplinary outpatient clinic.

Methods: Health episode statistics data were audited to identify PwMS with admissions for UTI as the primary diagnosis (code N390) to University College London Hospitals NHS Trust over 5 years (April 1, 2014-March 31, 2019). Records were reviewed for data including demographics, MS history (subtype, duration, EDSS), urological symptoms and interventions and admission(s) for UTI (frequency, microbiology, treatment).

Results: In the last year 18 patients (7 female) had UTI presentations with 7 having ≥ 2 and 5 meeting the European Association of Urology criteria for recurrent UTIs. Mean age was 56.5 years (range 33-80) and duration of MS 19 years (range 3-22). 10 patients had SPMS, 5 PPMS and 3 RRMS. Median EDSS was 8 (range 4-9.5). Only 3 were currently on disease-modifying treatment, but 7/11 males and 2/7 females were previously treated. 12 (9/11 males, 3/7 females) were using a urinary catheter (suprapubic [n=7], urethral [n=3], intermittent self-catheterisation [n=2]). 7 patients were on UTI prophylaxis (3 antibiotics, 4 D-mannose, 2 methenamine, 1 cranberry). There were 28 presentations with 5 PwMS accounting for half of these. There were 23 inpatient admissions, with mean length of stay 8.4 days (range 0-74) and cost of £3,507. Most commonly, urine culture showed mixed growth (8). The commonest single organisms isolated were *Klebsiella* spp., *Enterococcus faecalis* and *Pseudomonas aeruginosa*. 11 episodes required intravenous antibiotics with the remainder treated orally for a mean of 7.3 days (range 3-14).

Conclusions: A core group of PwMS have emergency presentations with recurrent UTIs. Most have progressive MS and relatively high levels of disability. In contrast to overall populations of PwMS, they were more likely to be male, which may be due to greater catheter use and historical exposure to immunomodulatory therapy. Work is underway to identify how management could be altered to reduce frequent admissions.