



First clinical review of MICRODOX bladder irrigation for prevention of catheter associated urinary tract infection in neuropaths

Stephanie Kotes, Robyn Hawkins
Te Whatu Ora, Health New Zealand

INTRODUCTION

Patients with neurogenic bladders are at high risk of catheter associated urinary tract infections and lifelong prevention presents a challenge in the face of emerging antibiotic resistance world wide.^{(1) (2)} MICRODOX is an electrolysed bladder rinse solution using Microdacyn Super Oxidised Hypochlorous Acid Solution as the active ingredient, a formula that has been successful in wound care in clinical use.⁽³⁾

The purpose of MICRODOX irrigation is the removal of UTI causing bacteria from the bladder lining, known as biofilm, thus leading to a reduction in urinary tract infections in catheter dependent patients.

Extensive in vitro data is reported, this review presents the first human efficacy data in the literature to date.

The primary end point of this review is reduction in symptomatic CAUTI, the secondary end point is reduced blockage of indwelling catheters.



METHODS

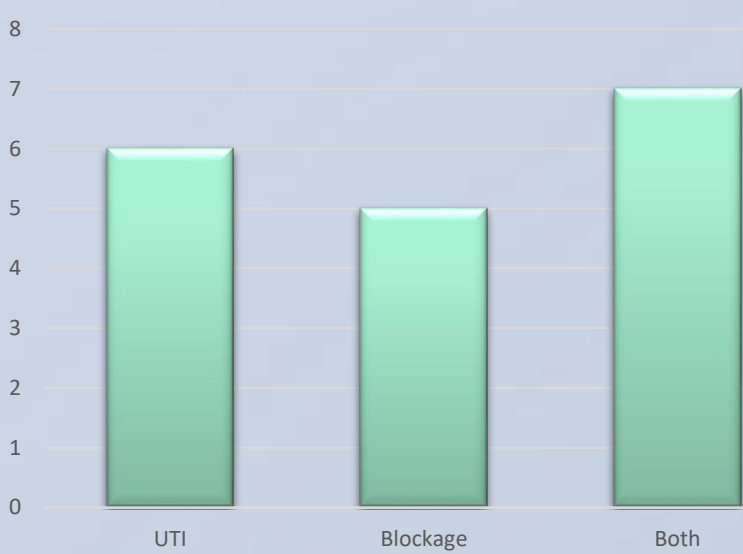
We retrospectively reviewed data of catheter dependent neuropathic patients, who had been commenced on MICRODOX washouts within the last 12 months.

Patients were commenced on a weekly regime of two subsequent bladder washes with 30ml of MICRODOX solution left in situ for 10min before drainage.

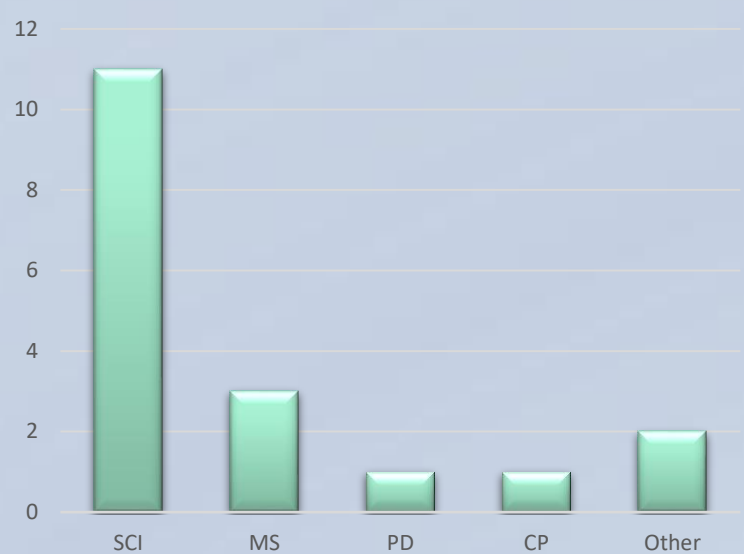
Indications for treatment were recurrent CAUTI despite other antibiotic-sparing preventative treatment attempts including Hiprex, Vitamin C and D-mannose. Additional indications were frequent catheter blockages with or without associated symptoms of CAUTI.

Phone interviews were conducted to assess symptomatic improvement and any noted adverse effects as well as self-reported UTI.

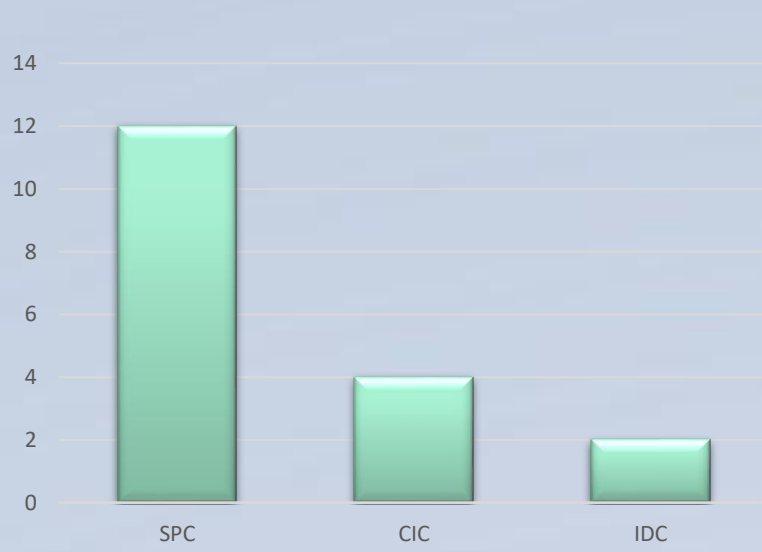
Clinical indication for MICRODOX



Underlying neurological condition



Catheter type



A total of 18 patients were included in this review, 9 males and 9 females. The median age is 57 (29 to 82). A summary of underlying condition, type of bladder management and indication for treatment can be found in the above charts.

RESULTS

Of the 13 patients initially presenting with recurrent symptomatic CAUTI only two reported on-going infections.

All of the patients presenting with frequent catheter blockages reported notable improvement with decreased frequency of catheter exchanges.

Four patients reported side effects- two reported burning on instillation, one reported UTI, and one reported haematuria which is currently under investigation. 14 patients reported the instillations were well tolerated.

At time of review only four patients had discontinued use of MICRODOX, two due to product cost, one due to discomfort on instillation, and one due to urinary tract infection after instillation of MICRODOX.

CONCLUSIONS

Overall the majority of patients reported positive responses to MICRODOX bladder instillations in both prevention of CAUTI and increased catheter longevity. Patient experience was also overwhelmingly positive suggesting this would be a highly tolerable treatment if further studies prove effective.

The aetiology of CAUTI in the group of patients is multifactorial and credit cannot be given alone to MICRODOX in a retrospective review of this size.

Given these initial promising results, larger volume studies, ideally randomised control trials are necessary to objectively assess the efficacy of MICRODOX for prevention of CAUTI and catheter blockage.

Our hope is to support antibiotic stewardship and see an overall reduction in the use of antibiotics for treatment of CAUTI and combat emerging antibiotic resistance whilst improving patient outcomes.

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