A real world data analysis of intermittent catheterisation

E. Chartier-Kastler, C. Chapple, B. Schurch, and M. Saad.
European Association of Urology 2022

B BRAUN
SHARING EXPERTISE

A real-world data analysis of intermittent catheterisation, showing the impact of prelubricated versus hydrophilic catheter use on the occurrence of symptoms suggestive of urinary tract infections.

Aim:

To describe the incidence and frequency of symptoms suggestive of UTIs (ssUTIs) for prelubricated versus hydrophilic intermittent urinary catheters (IUCs). Prelubricated catheters are also known as 'gel reservoir' or 'gel coated' catheters.

Method:

- Symptoms suggestive of a UTI (ssUTI) was defined as either:
  - Prescription of a non-specific antibiotic with a UTI-related diagnosis, or
  - Prescription of a UTI-specific antibiotic
- This prescription data was taken from a longitudinal patient database of electronic patient records which allowed anonymised patients' prescription data and GP visits to be analysed.
- Patients used around 3 IUCs per day

Patients and propensity score matching:

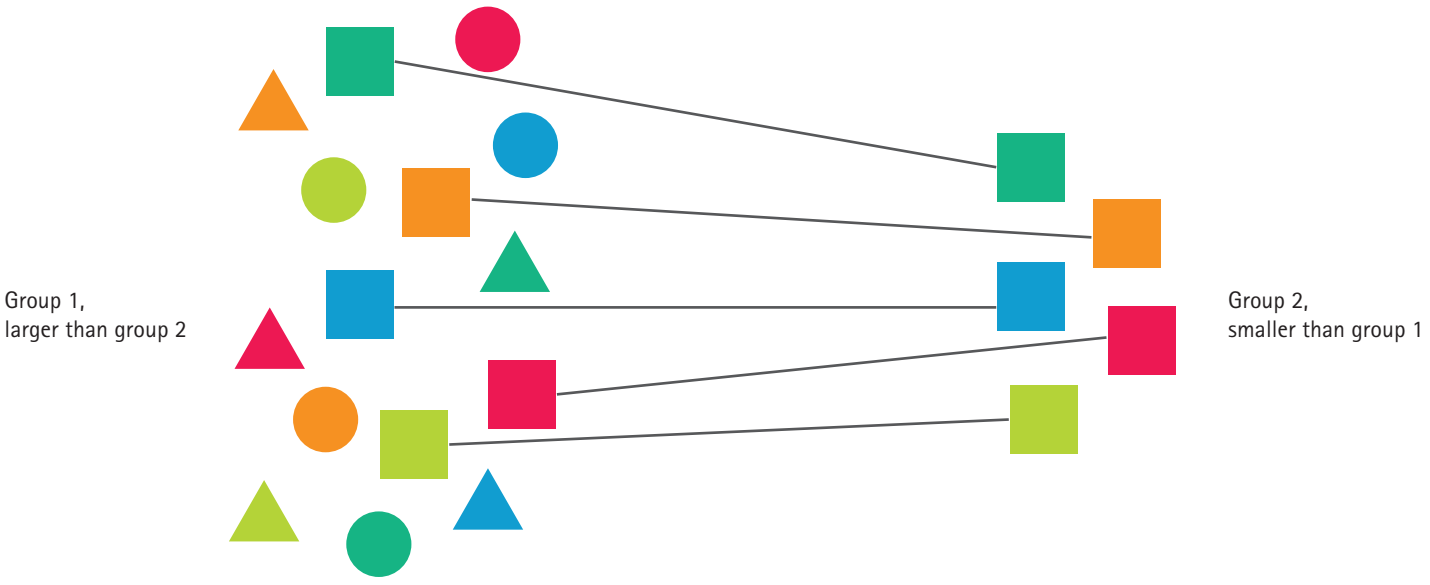
5296

patients in total:

458 prelubricated and 4838 hydrophilic

Propensity score matching was used due to the hydrophilic catheter group being more than 10 times larger than the prelubricated group. Each patient from the smaller prelubricated group was 'paired' with their closest match in the larger hydrophilic group for characteristics such as sex, age, region of residence, frequency of switching catheters, the main indication for IUCs, and the number of ssUTIs experienced during the pre-index period. This created two groups with almost identical characteristics at baseline.

The diagram below illustrates propensity score matching. Individual from Group 2 matched with the individual from Group 1 with the most similar characteristics at baseline. Non-matched individuals are excluded from analysis.



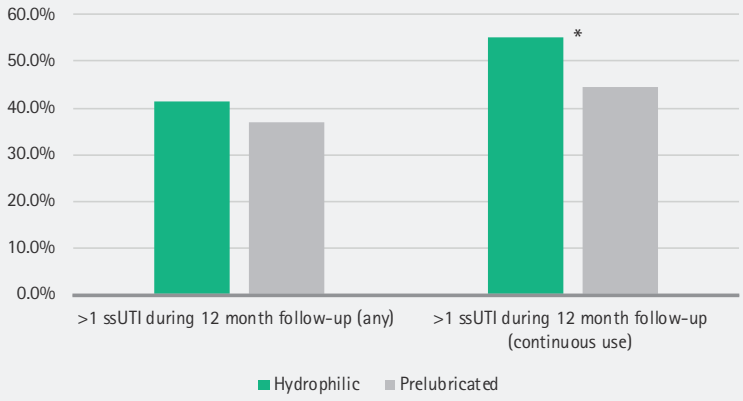
Key results:

Among patients who used the same type of catheter ('continuous use'):

- The proportion of patients experiencing ssUTIs was **significantly lower** in the prelubricated group (44.6% for prelubricated vs. 55.0% for hydrophillic; p=0.015)
- A **20.9% difference** in ssUTI rates between the two groups for continuous use, in favour of prelubricated catheters

* indicates a statistically significant result at the p<0.05 level

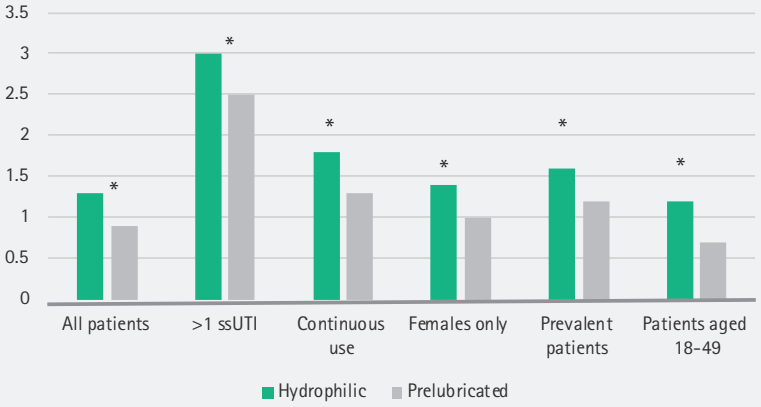
Fig. 1 Proportion of patients experiencing ssUTIs



- The mean number of ssUTIs was significantly lower in the prelubricated group across
  - patients as a whole
  - patients who had at least one ssUTI
  - females
  - prevalent patients+
  - those aged 18-49

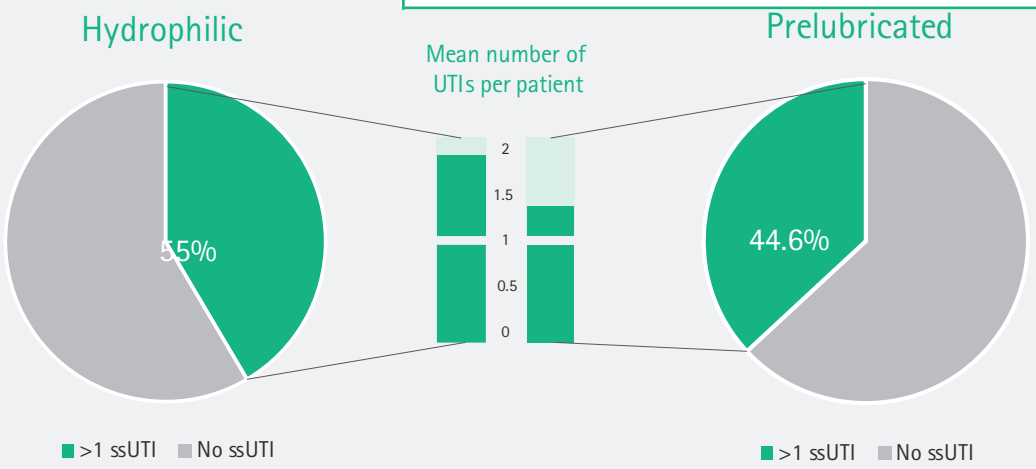
+ prevalent patients = patients who already had ssUTIs at the start of the study

Fig. 2 Mean number of ssUTIs per patient



- The number of ssUTIs per patient was also **significantly lower** in the prelubricated group (1.3 vs. 1.8; p=0.004) for patients who used the same type of catheter for the whole index period

Fig. 3



This study[1] highlighted the importance of the continuous use of prelubricated catheters. (Fig. 1)

Conclusion:

When accounting for both continuous and non-continuous use, the proportion of patients experiencing ssUTIs was similar in the hydrophilic and prelubricated groups, suggesting that there are similar levels of safety between the two types of catheter. The proportion of patients with ssUTIs was also significantly lower in the prelubricated group for patients using the same type of catheter for the whole exposure period, highlighting the importance of continuous use. Futhermore, the study's findings that prelubricated catheters were 'linked to a lower occurrence of ssUTIs when considering vulnerable patient populations (women and prevalent patients)' provides evidence of the safety of prelubricated catheters for patients at higher risk of developing UTIs.

1. Chartier-Kastler, E., Chapple, C., Schurch, B., & Saad, M. (2019). Real-world data analysis of intermittent catheterization, showing the impact of prelubricated versus hydrophilic catheter use on the occurrence of symptoms suggestive of urinary tract infections. Neurourology and Urodynamics, 38(2), 703-710. doi: 10.1002/nau.23909

B. Braun Australia Pty Ltd | Level 5, 7-9 Irvine Place, Bella Vista NSW 2153 Tel: 1800 251 705 | www.bbraun.com.au | info.au@bbraun.com

BAUS OM E1038 08/23