

## CLEAN INTERMITTENT CATHETERIZATION IS A CHALLENGE IN PATIENTS SUFFERING FROM MULTIPLE SCLEROSIS: OUR EXPERIENCE WITH 115 PATIENTS

### Hypothesis / aims of study

Clean intermittent catheterization (CIC) is a simple and very effective treatment modality for neurogenic voiding dysfunction, for primary emptying difficulties, or after pharmacologic therapy in patients with detrusor overactivity (DO) (1, 2). Many multiple sclerosis (MS) patients present with DO associated detrusor sphincter dyssynergia (DSD). Due to MS, this is often accompanied by cognitive, sensory and motor impairment. For this reason, CIC can be considered as a real challenge in an MS population. Our objectives were to verify if MS patients really perform CIC in their real life, after one-day hospitalisation to learn CIC, and to determine the reason why they eventually stopped CIC.

### Study design, materials and methods

We retrospectively analysed data on a large population of MS patients who were offered to learn CIC, with or without DO treatment. Gender, type of MS, EDSS score, duration of MS and duration of LUTS before CIC, presence of DSD, urgency (U), urgency urinary incontinence (UUI), age at day of CIC learning were recorded. We also assessed EDSS score at last control visit of CIC, micturition pattern, urinary continence, patient satisfaction, and the reasons that lead to CIC interruption. We also compared female and male patients.

### Results

We proposed CIC to 115 MS patients; their characteristics are provided in Table 1. Among the 115 patients, 11 refused to try CIC and 4 learned it but did not continue. The main reason for not initiating or pursuing CIC in this cohort of 15 patients was psychological (Table 2).

Table 1: Characteristics of the MS patients included in the study.

Characteristics	Patients not performing CIC (n=115)
Male patients (%)	41 (35.7%)
Age (mean ± SD)	46.9 ± 10.7
% relapsing-remitting MS (%)	41 (36.0%)
Secondary progressive MS (%)	61 (54.5%)
EDSS score (mean ± SD)	5.1 ± 1.7
MS > 5 years before CIC	100 (89.3%)
LUTS > 5 years before CIC	78 (70.3%)
DSD	108 (95.6%)
Urgency	98 (86.7%)
UUI	76 (67.0%)
Dysuria	104 (92.0%)

Table 2: Reasons why MS patients who did not perform CIC

Reason	Refused CIC (n =11)	Learned CIC but stopped immediately after (n=4)
Psychological impact of CIC	5	3
Dexterity problem	1	0
Preferred indwelling catheter	1	1

In the group of 100 patients performing CIC, anticholinergics were administered to 80 patients. Oxybutinine 3 x 5 mg was the first choice in 76 subjects (95.0%), Tolterodine 1 x 4mg was proposed to the 4 other patients because of cognitive problems (5%). Oxybutinine was replaced by another anticholinergic because of side effects in 65 patients (85.5%); this second anticholinergic needed to be replaced by a third anticholinergic medication because of lack of efficacy or side effects in 26 patients (34.2%). Detrusor injections of botox were carried out in 24 patients (24.0%) and various modalities of neuromodulation in 9 patients (9.0%). Different micturition patterns were used by the patients (Table 3).

Table 3: Intermittent catheterization (IC) associated with spontaneous micturition or not

Voiding pattern	Number of patients (%)
Clean intermittent self-catheterization (CISC)	33 (33%)
CISC and spontaneous voiding	55 (55%)
CIC	5 (5%)
CIC and spontaneous voiding	7 (7%)

Mean CIC duration was 37± 31 months. CIC was still used by 67 patients (67%) at last visit. The remaining 33 patients stopped for different reasons: low residual volume (9%), disability (5%), psychological problems (3%), infection (4%), urinary diversion (3%), patient not compliant (3%), no improvement of UUI (2%), pain (2%), indwelling catheter (1%), lost of follow up (1%). Mean

EDSS score at last visit was  $5.42 \pm 1.76$ , which is a little worse than at the beginning of CIC (increment of 0.34,  $p < 0.0001$ ). Comparisons between females and males showed no statistically significant difference in any of the parameters assessed, even in the group of 33 patients who stopped CIC (for some of them after a few weeks). All 67 patients still performing CIC were satisfied with intermittent catheterization, even when continence was not always totally achieved.

#### Interpretation of results

We were happy that we could convince 104 out of 115 MS patients (90.4%) to learn CIC. One hundred patients continued intermittent catheterization and, at last followup, 67 were still using catheterisation (under CIC or CSIC). This is only 59.5% of the initial 115 MS patients. Practice and theory seem to diverge. The patients which were going on with CIC were happy with catheterization thanks to achieving a better continence, mostly in association with anti-DO therapy. EDSS scores slightly but significantly worsened between the first and last visit, but this was not unexpected in view of the rather long followup (mean 3 years). MS is a progressive disease, which might explain a certain drop out rate. Another challenge is the prevention of urinary infection : this was documented in 21 patients not only in the learning period (reason to stop with CIC), but also later.

#### Concluding message

Reports about intermittent catheterization generally concern patients with different neurogenic pathologies. We were able to find only one abstract in the literature dealing with the prevalence of urinary catheterization in women and men with multiple sclerosis (3). Although CIC is considered the golden standard for bladder emptying disorders in neurogenic bladder disease, our current study showed the difficulty to maintain CIC in MS patients. Patients should be monitored on a regular basis and continuously motivated: a real challenge.

#### References

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#### Disclosures

**Funding:** NONE **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** this is a retrospective study **Helsinki:** Yes **Informed Consent:** No