

CHANGING SPINAL CORD INJURY EPIDEMIOLOGY – AN IMPACT ON BLADDER MANAGEMENT IN REAL LIFE CONDITIONS

Hypothesis / aims of study

To investigate how changes of Spinal Cord Injury epidemiology is affecting bladder management at the time of discharge from Spinal Unit^{1,2}.

Study design, materials and methods

In the last ten years we observed an increase of age and a subsequent higher incidence of comorbidities between patients with new onset of Spinal Cord Injury (SCI) referring to our Spinal Unit for acute care and rehabilitation².

We also documented throughout the years a growing percentage of incomplete lesions, mainly between cervical and lumbosacral SCI².

We thus decided to perform a survey about SCI epidemiology and bladder management at discharge from Spinal Unit and involved three Spinal Units located in three different regional areas of our country.

We resolved to include in the survey only patients discharged during 2016 to provide an updated picture of new onset SCI patients in our country.

We investigated the following items: 1) total number of patients referring to the Spinal Unit with new onset SCI 2) number of males and females 3) overall mean age, mean age for males and females 4) neurological level and grade of lesion (cervical vs thoracic vs lumbosacral and complete vs incomplete) 5) bladder-emptying methods at discharge for male and female patients 6) medications prescribed for neurogenic bladder at discharge for male and female patients

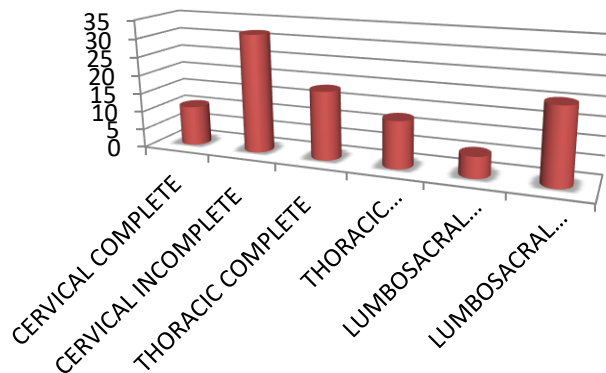
Results

We obtained data from a total of 157 patients, 96 males and 61 females with a male/female ratio of 1,6.

We observed a high percentage of cervical lesions (mostly incomplete, 31,9% of our population) with a paraplegic/tetraplegic ratio of 1,34. Our data also showed a very low percentage of lumbosacral complete lesions (only 5,7%).

Data on neurological level and grade of lesion are summarized in the following graphic.

FIG 1 – Neurological level and grade of lesions – data are shown as percentages of the total number of patients.



Mean age was 57,7 years in the overall population, 56,5 years for males and 60.2 years for females.

As regards bladder emptying methods, our data showed a high percentage of catheter-free micturition both in males and females (37,5% and 39,3% respectively).

Intermittent catheterization, alone or in combination with another bladder-emptying method, was used by 38,5% of males and 37,7% of females.

Condom catheter was used by a small percentage of males: 7,3%.

Indwelling urethral catheter drainage was adopted by 15,6% of males and 23% of females.

Suprapubic cystostomy was the bladder emptying method of a single male patient.

With regard to medications, muscarinic antagonists (mostly Oxybutynin) were the most frequently prescribed drugs for females (29,5%) while in males Alpha-blockers (mostly Tamsulosin) were prescribed in 30,2% and muscarinic antagonists in 22,9% of our population.

No medication was prescribed for 67,2% of females and 37,5% of males. Other medications and combination therapies were used in a small percentage of both males and females.

Interpretation of results

In our opinion, one of the most interesting data emerging from this survey is the high percentage of catheter-free micturition: the more reasonable explanation for this finding - and for the low percentage of patient taking medications as well- is the high percentage of incomplete lesions. The percentage of catheter-free micturition was similar in a paper published by Hansen et al., in which the population had similar characteristics (in particular, low paraplegic/tetraplegic ratio and a high percentage of incomplete lesions)³.

Intermittent catheterization, either self-catheterization and catheterization performed by a care-giver, is the most common bladder emptying method in our population, in accordance with literature³, but there is also a high number of patients who adopted indwelling urethral catheter.

This latter finding may be explained by the high mean age of our population; this assumption is supported by the fact that indwelling catheterization was more common between women, who had a higher mean age than males.

Concluding message

Intermittent catheterization is reported to be the best option to manage neurogenic bladder in SCI patients, but we tried to evaluate its true role in real life conditions: because of the increase of age of patients with new onset SCI and the higher percentage of incomplete lesions between them, catheter-free micturition and indwelling catheterization are becoming more common options for bladder management in SCI patients.

Further research is needed to correlate bladder management options with patients demographics and with their clinical, neurological and functional characteristics.

References

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Disclosures

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