

## CARING FOR PATIENTS WITH NEUROGENIC URINARY BLADDER AFTER STROKE

<sup>1</sup>COSMINA DIACONU, <sup>2</sup>G. DIACONU, <sup>3</sup>ANDREEA DAN, <sup>4</sup>FLORINA POPA

<sup>1,2,4</sup> „Victor Papilian” Faculty of Medicine, Sibiu, <sup>3</sup>Clinical County Emergency Hospital of Sibiu

**Abstract:** Patients with stroke can have abnormal filling and emptying of the urinary bladder due to bladder sphincterian dysfunctions of neurological origin. The presence of urinary incontinence has a profound effect on patient's life quality by altering their social and psychological behaviour. The combination between the two forms of treatment (behavioural therapy and medication) has proven its efficiency in controlling incontinence. Adequate bladder rehabilitation has to be done by a competent and devoted team which has to act with patience on a long term basis.

**Keywords:** urge incontinence, bladder rehabilitation, neurogenic bladder

**Rezumat:** Pacienții cu AVC pot prezenta afectări ale umplerii și golirii vezicale datorate disfuncțiilor vezico-sfincteriene de origine neurologică. Prezența incontinenței urinare afectează marcat calitatea vieții pacienților, alterând comportamentul social și profilul psihic al acestora. Combinarea celor două tipuri de tratamente (terapie comportamentală și terapie medicamentoasă) și-a demonstrat eficiența în controlul incontinenței. Reeducarea vezicală trebuie făcută de o echipă de îngrijire competentă, devotată, care să acționeze cu răbdare pe termen lung.

**Cuvinte cheie:** incontinență urinară, reeducare vezicală, vezică neurogenă

Two types of bladder dysfunctions can be seen after a stroke:

1. Areflexic bladder, which is due to a hypoactivity of the detrusor muscle, causing secondary chronic urine retention. This situation occurs immediately after paralysis is produced, during the flask phase, the patient, having urinary losses by “over-flow”. Areflexic detrusor was especially reported in patients with hemorrhagic stroke- 85% of the patients and less frequently after an ischemic stroke- 10% of the patients.
2. Overactive bladder which is the issue in the “overactive bladder syndrome”, which includes imperious urination, +/- urinary incontinence, +/- nycturia.

The patient displays detrusor contractions (“overactive neurogenic detrusor”) which occur

unseasonably during bladder filling and cause urine loss in quite important gushes, preceded by imperious need to urinate, that occurs during nocturnal repose, then during the day, possibly being determined by exposure to cold.

In order to correctly diagnose neurogenic bladder, it is necessary to completely evaluate the patient. Therefore,

- It is inquired if the symptoms existed prior to the stroke onset.
- Other pathologies that affect bladder function (diabetes mellitus, benign prostate hypertrophy, urinary lithiasis, bladder tumours, genital prolapse, constipation with accumulation of faecal matter in the sigmoid and rectum, urinary tract infections), are excluded.
- A “mictional diary” is made over a period of 1-3 days which has to cover:
  - the amount and schedule of urination;
  - the amount and schedule of fluid intake;
  - the frequency and schedule of urinary losses.

Major factors which lead to urinary disturbances, in stroke patients, can be:

- loss of sphincterian inhibition;
- diminishing of urination sensation;
- bed immobilization

### Treatment of neurogenic bladder

In stroke patients, due to bladder-sphincter dysfunctions of neurological origin, bladder catheterization is usually imposed on. In this phase, the role of the caring unit consists in the rigorous hygiene of the genital area, overseeing of the bladder catheter in order to notice possible urine leak near the catheter and changing the catheter when needed or, at least, every other two weeks. It is known that bladder catheterization “a demeure”, increases the risk of urinary tract infections, which hastens onset of urinary incontinence. If there is patient cooperation (many times, due to psychic affection, cooperation is very difficult to achieve), it is pursued to remove the catheter, as soon as possible, and to encourage the patient to urinate without help. It was noted that in stroke patients, spontaneous mictional control is resumed in approximately 4-6 weeks from the onset. Persistence of incontinence 3 weeks from the stroke lowers the chances of motor rehabilitation.

In case of stroke, after bladder catheterization

## CLINICAL ASPECTS

suppression and treatment of urinary infection, bladder rehabilitation is begun in association with medication. So, the treatment of neurogenic bladder is conservative, combining two types of therapy:

- a) Behavioural therapy, bladder training with pelvic floor training and bio-feedback.
- b) Medication with anti-cholinergic and anti-spastic medication.

### Behavioural Therapy

The first condition to initiate therapy for “overactive bladder syndrome” is cooperation from the patient who wants, requests and takes active part in bladder rehabilitation.

For this purpose, the patient will be explained how the lower urinary tract works, what are the dysfunctions that generate urinary symptoms and how the treatment should work. Afterwards, the “mictional diary” will be made over a period of 3 days. After identifying the critical hours, the following procedures will be applied:

1. *Programming of diurnal urination:* The patient will be required to deliberately postpone urination, gradually growing the interval between mictions (initially, the patient urinates at fixed intervals of ½ to 1 hour, growing the interval so that the patient would urinate at 3 hour interval). For this purpose, the patient will be given bedpans at regular hours or he or she will be taken to the toilet. Stroke patients display motor deficiencies, due to hemiplegia or hemiparesis, which can be associated with walking deficiencies, such as degenerative joint conditions, that delay to the toilet. Therefore, for the ones who move slowly and display difficulties in holding urine, the toilet should be as close to the ward as possible. If there is cooperation from the patient, he or she will be requested to try to refrain from urinating as long as possible when put on the toilet. This method is good because it removes the patient’s fear of having uncontrolled urine emissions with staining the underwear. In the event of accidental urine loss, caring personnel and the family must display an understanding attitude of encouragement toward regaining control. Fluid intake will be in accordance with mictional rhythm.
2. *Programming of nocturnal urination:* The patient will be requested to urinate before going to sleep and no fluids will be given after 6 o’clock pm.
3. *Perineal muscle training:* It starts even from the decubital position (lateral or dorsal) and it is continued in the sitting and standing position. This type of training consists in sustained contractions of the pelvic floor muscles for 10 seconds, which is repeated 10 times with a 2 minute break and the cycle is repeated so that the duration of the training should not be longer than 20 minutes. It is important not to prolong the training because the patient is getting tired and we lose his or her cooperation in executing correctly the training. A good basic tonus of the perineal muscles together with efficient contractions of the pelvic floor muscles, make control of

involuntary contraction bladder possible and promote bladder relaxation. Usage of feed-back therapy has the role to motivate the patient and to promote bladder training. Patients are aware when they contract correctly the pelvic floor muscles, because they receive a visual or auditive signal generated by electromiography with the help of a surface electrode positioned on the perineal muscles. In order to obtain better results of the therapy, especially in elderly patients, psychotherapy should be added.

**Medication** of “overactive bladder syndrome” consists in association of anti-cholinergic and anti-spastic medication. This medication determines growth of bladder capacity and diminishing of imperious urination urge. For this purpose, oxybutynin can be used, with the dosage of ½ tablet, 3 times per day and up to 3 tablets per day, when needed.

For patients with impossible to re-educate incontinence, the imposed on attitude is usage of absorbing materials, like pampers and maintenance of permanent local hygiene (correct hygiene, changing of bed sheets and underwear, protection of the bed with oil cloth) or bladder catheterization.

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