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Hennebelle D[1], Valentini F[2], Chenevelle J M[1], Petit F[1], Robain G[2]
1. Service de MPR Hopital Jean Rostand, 2. UMR S 731 Inserm/Université Pierre et Marie Curie-Paris 6

ANALYSIS OF LOWER URINARY TRACT AND BOWEL SYMPTOMS FOLLOWING STROKE IN THE EARLY STAGE OF REHABILITATION.

Hypothesis / aims of study
The occurrence of lower urinary tract symptoms (LUTS) and bowel symptoms (BS) is common in stroke patients. These major problems and particularly their association during the early phase of rehabilitation are becoming of great interest in the rehabilitation community.
Thus, the aim of this study was to investigate the prevalence of these symptoms in a population of stroke patients at the admission in a rehabilitation unit, and to evaluate any predictive clinical factor of their occurrence.

Study design, materials and methods
The population consisted of all in-patients admitted after stroke in a rehabilitation unit between January 1995 and December 1998.
Recorded data were information about the side location of the lesion, its aetiology (hemorrhagic or ischemic) and symptoms at entry: 1) bowel symptoms: faecal incontinence, constipation, 2) micturition symptoms: urinary incontinence or retention. Initial Barthel score was also evaluated.
Analysis was carried out to examine the relationships between LUTS and/or BS occurrence with demographic details (age and gender), characteristics of the lesion (aetiology, location), severity of stroke (motor, cognitive and psychological impairments), delay between stroke and entry, and between stroke and walking recovery.
Results
One hundred and fifty two stroke patients (96 males, 56 females) were included in the study (mean age: 63.3 years [29-90 years]). Hemiplegia was right in 64 patients and left in 68.
One hundred and four patients (68.4%) reported at least one of the studied symptoms: constipation N = 60 (39.5%), faecal incontinence N = 22 (14.5%), urinary incontinence N = 30 (19.7%) and urinary retention N = 4 (2.6%).
Fourteen (9.2%) had double incontinence. Forty three patients (28.3%) reported LUTS and /or faecal incontinence ; among them 35 (23.02%) had only LUTS.
Occurrence of LUTS and BS was not significantly correlated with age, gender or injured hemisphere (chi 2: $p > .05$).
Barthel score differed significantly ($p < .0001$) between patients without any symptom (BI =40) and patients with at least one symptom (BI=30 including constipation and BI=19 excluding constipation). The mean delay between stroke and admission in the unit for patients without symptom was 33 days; prevalence of LUTS and BS increased with an increasing delay: one or more symptom excluding constipation (54 days, $p<.0001$) and double incontinence (66 days, $p=.0003$).
Delay between stroke and walking recovery increased from patients with no symptom (47 days), with one symptom (79 days, $p=.012$), with one symptom excluding constipation (107 days, $p<.001$) or with double incontinence (154 days, $p=.012$).
There was also a relationship between the presence of one symptom or more (constipation excluded) and the presence of neuropsychological impairments ($p=.029$).

Interpretation of results
This study only reflects the stroke population eligible to the admission in a rehabilitation unit.
The characteristics of the studied population (age, gender, injured hemisphere) do not have any significant effect on the incidence of lower urinary tract symptoms (LUTS) and bowel symptoms (BS) as it has been reported in previous studies. The data regarding the severity of hemiplegia (delay between stroke and admission in the unit, delay between stroke and walking recovery, presence of neuropsychological impairment and Barthel score) are significantly associated with LUTS and BS. Some of these symptoms are probably due to the existence of functional limitations which could by themselves induce the occurrence of urinary and bowel symptoms [1].
The difference in the Barthel score between patients with or without any symptom must be interpreted carefully as the Barthel score includes 20% of continence items.

Concluding message
Lower urinary tract and bowel symptoms, independent of age, gender and injured hemisphere, are common in patients with stroke at admission in a neurological rehabilitation unit. The more important the lesion is, the more frequent these symptoms are, and the more frequently they are associated [2]. Improvement of the management of rehabilitation implies their identification early after the admission [3].

References
1- J Am Geriatr Soc. 2006, 54:1878-84.
2- Funct Neurol. 1992, 7: 47-9.
3- Clin Rehabil. 2006, 20: 1094-9.

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