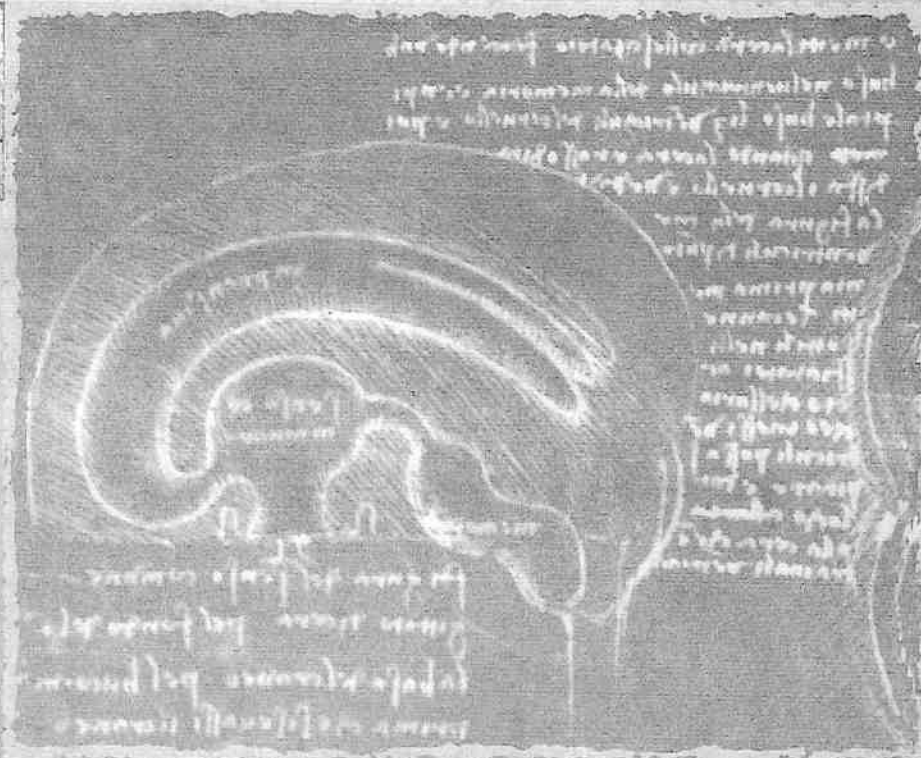


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SUPPLEMENT

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ABSTRACTS



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symptom in the outcome of rehabilitation in MS patients.

Material and methods: We considered 64 subjects with MS who underwent to a programme of rehabilitation in our Neurorehabilitation Unit. We measured entity of fatigue symptom with the Fatigue Severity Scale (FSS) administered at the beginning and at the end of rehab treatment. We defined Fatigue MS (FMS) subjects with a FSS score equal or over 36 points and Non-Fatigue MS (NFMS) all with a FSS score below 35. As clinical outcome measure of rehabilitation we considered Expanded Disability Status Scale (EDSS) and FIM for the functional evaluation of these patients.

Results: In our cohort of patients during rehabilitation FSS score showed a significant improvement in 39 patients with a strong statistical significance ($p < 0.0001$). However, fatigue seems to have no impact at all in clinical and functional outcome of rehabilitation. In fact, despite both EDSS and FIM improved significantly in our 64 subjects, Mann-Whitney analysis highlighted that fatigue is not able to influence both outcome measure: $Z = -0.725$ for EDSS with $p = 0.468$ and $Z = -0.838$ with $p = 0.402$ for FIM.

Discussion: Fatigue often determines a severe impact on motor and social activities of MS patients and it is believed that it could interfere in the rehabilitation outcome of MS patients.

Conclusion: These data support the evidence that fatigue could not be considered as a predictor of therapeutical ineffectiveness of rehabilitation, in spite of its subjective clinical impact on daily life of MS patients.

COMPARISON OF THE EFFICACY OF AN IN-PATIENT AND OUT-PATIENT REHABILITATION STRATEGY IN SUBJECTS WITH MULTIPLE SCLEROSIS

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Objective: To evaluate and compare the short-term and long-term efficacy of a 3-week intensive (2 sessions per day) in-patient rehabilitation program with a non-intensive out-patient rehabilitation program in a sample of patients with Multiple Sclerosis (MS).

Materials and methods: Starting in November 2007, we selected a group of 21 consecutive patients affected with relapsing-remitting (RRMS) and secondary-progressive (SPMS) disease courses in two Italian regions. Inclusion criteria were: worsening of disability of at least 1.0 point at the Expanded Disability Status Scale (EDSS) in the last 12 months; no relapses in the previous 3 months; an EDSS score between 3.5 and 6.5. A total of 9 subjects (3 RRMS, 6 SPMS) underwent the in-patient intensive rehabilitation programme in a Neurorehabilitation Dept. in Northern Italy, while 12 patients (6 RRMS, 6 SPMS) followed a similar programme in an out-patient clinic in Southern Italy. Outcome measures were: EDSS, Barthel Index (BI), time to walk 15 feet (T15F) and the 9-Hole-Peg-Test (9HPT). The two groups were matched for age, sex, disease duration, EDSS, BI and 9HPT at baseline. Outcomes have been measured at the end of the treatment (short-term efficacy) and at the 3-month follow-up (long-term efficacy).

Results: The inpatient and outpatient rehabilitative strategies were effective in improving disability measured with the EDSS score ($p < 0.0001$), 9HPT (right hand $p < 0.02$, left hand $p < 0.0001$), and BI ($p < 0.02$), while it was not effective in T15F ($p = 0.09$) at the short-term follow-up. Inpatient rehabilitation was more effective than the outpatient at the short-term follow-up, but the efficacy did not last at the

long-term follow-up.

Discussion: Intensive short-term inpatient rehabilitation seems to be extremely effective in the short-term follow-up, but its beneficial effects tend to disappear as soon as 3-months after, while a non-intensive chronic outpatient treatment seems to be less effective but to last over time.

Conclusion: Both inpatient and outpatient rehabilitation are effective in providing clinical and functional improvement in MS patients, but this advantage seems to be maintained better during prolonged rehabilitation. We propose that a strategy of intensive rehabilitation followed by maintenance rehabilitation could represent the most effective strategy for MS patients.

NEUROGENIC BLADDER MANAGEMENT IN A DEPARTMENT OF INTENSIVE NEUROREHABILITATION: FROM INDWELLING URINARY CATHETER TO AUTONOMY

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Objective: The objective of the study is to assess the early removal of indwelling urinary catheter (IUC) through the use of a protocol in patients (pts) with neurological disease hospitalized in a department of intensive neurorehabilitation.

Materials: From January 2007 to April 2008 were admitted 351 pts of which 239 (68%) with IUC, 121 females and 118 males with average age of 66.6 years (range 16-87), 51% suffering from stroke ischemic, 23% from hemorrhagic stroke, 17% from spinal injury, 7% from brain cancer and 2% from head trauma.

Method: For the removal of the IUC was used a protocol taking into account the clinical conditions, neurocognitive disorders and pressure ulcers and evaluating the changes before and after removal: of urine about the leucocyturia, of urinecultures, of symptomatic urinary tract infections (UTI) in pts with positive urinocoltura pre-and post removal and the Barthel Index (BI) relatively to bladder's item (range 0-2).

Results: The removal of IUC took place on average by 9.7 days from admission (range 1-59), 26 pts it was necessary to use more attempts due to hematuria, worsening of clinical conditions, symptomatic UTI and for refusal by the pts to perform intermittent catheterization. Of the 239 pts 94.6% was discharged with balanced autonomous micturition, 3.3% of pts, all suffering from spinal injury, with intermittent catheterization and 2.1% was relocated to the IUC worsening of medical conditions or refusal of the intermittent catheterization. The positivity of urinocolture is reduced from 82% pre-removal to 51% post-removal and in the urine significant leucocyturia decreases from 59% to 37%. The 35% of pts with IUC and positive urinocolture pre removal has developed symptomatic UTI, and after removing only 20%. The item bladder of the BI moves from 0/2 to 2/2 in 97.9% of pts.

Discussion: The management of neurogenic bladder disfunctions is part of the rehabilitation project in the pcs with neurological disease. The first step is the removal of this aid. Its use is justified only in the acute phases and should be removed as early as possible.

Conclusions: From the literature shows that in Italy the 67% of pts hospitalized in a department of intensive neurorehabilitation is resigned with the IUC. Its use for a long time has not rational, is unnecessary and exposes the pt to various risks. The protocol we used is a valuable tool in the background: of physiatrist that allows for early removal of the IUC with clinical, psychological and economic benefits.