Introduction

Current prediction models are mostly based on a limited number of participants recruited from a single setting, limiting generalizability of findings. The CERISE study (Collaborative Evaluation In Stroke Rehabilitation across Europe) investigated in-patient stroke rehabilitation in 532 people with stroke in four European rehabilitation centers. The aim of this study was to determine predictors of personal and extended activities of daily living at six months after stroke.

Material and methods

People were recruited from centers in Belgium, Germany, United Kingdom and Switzerland. Data were collected on admission and at two and six months post stroke. In total, 26 variables were recorded comprising patient- and stroke-specific information, comorbidities, motor and functional capabilities and socio-economic factors. We conducted a multivariate logistic regression, predicting personal activities of daily living (ADL) (Barthel Index score; good outcome = BI ≥ 95/100) and extended ADL (NEADL) score; good outcome = NEADL ≥ 12/22) at six months. Sensitivity and specificity of the prediction models was calculated.

Results

- The model predicting good BI outcome (n = 468) included being male, having a higher BI at two months and better arm function at two months (P(1-P) = e^-6.004 + 0.08 (Barthel Index score at 2 months) - 0.32 + 0.09 (Barthel Index score at 2 months), sensitivity and specificity of the model was 80% and 88%, respectively.

Discussion

- Gender, Barthel Index score and arm function score determined outcome at six months after stroke with both good sensitivity and specificity. To the best of our knowledge, this is the largest, European, multi-center study that has been conducted in this area, with applicable prediction equations for the clinical setting.

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National and European consensus in spasticity management

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Management of spasticity has changed significantly during the last two decades, particularly through the contribution of new therapies such as botulinum toxin or the development of surgical techniques in some countries. Licensed indications were granted to pharmaceutical industry for different therapies at a national or European level but are sometimes guided by complex logics. In parallel, consensus meeting and recommendations of good practice were organised at a national, European or international level including experts in the field of spasticity management. These recommendations are sometimes different from licensed indications of the different countries and from a country in the other one within the European union. Theses nuances can concern the different line of treatment, dosages of the various pharmacological therapies, or the targeted muscles. The goal of this talk will be to show the common points and the differences existing between the different countries in the field of spasticity management.

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Grasping objects with allografted hands: A kinematic study

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Since the first human hand allograft in 1998, more than 50 patients around the world have received a hand allograft several years after an upper limb amputation, including about 25 cases of bilateral hand transplantation. Clinical results of these innovative surgical and immunosuppressive procedures are globally positive, with good functional outcome allowing patients to retrieve autonomy in daily life, in spite of some persistent impairment both at the level of touch sensation and range of motion. The analysis and functional features of prehension movements have been tentatively described for these subjects from a clinical perspective. The graft-induced plastic remodeling in the sensory-motor cortex has been documented by functional neuroimaging, but the molar structure of visually-guided prehension movements has never been investigated. We report on the first kinematic study of prehension performance in five French bilateral hand allograft receivers. Patients had been transplanted from two and half to five years after amputation, and the delay between the graft and our assessment ranged from three to thirteen years. Grafted patients were asked to reach and grasp one of three cylinders of different sizes, located either on the left or right hemispace. Both grafted hands were separately assessed, and performance was compared with that of a group of control subjects matched for age, gender and upper limb morphology. Results showed a significant increase of the maximum finger aperture paralleling the increase in object size in patients as in control subjects, which indicates that critical features of the visuomotor control of prehension are spared in allograft receivers. By contrast, the molar structure of the movement was somewhat altered by a lengthening of the final phase of the movement when the stable finger grip on the object is achieved, whereas the earlier phases of reaching and grasping components were preserved. These data suggest a remarkably good ‘recovery’ of the pattern of prehension after a bilateral hand allograft, especially concerning the scaling of the pinch grip according to the object size, and also indicate some difficulties may persist in grasping object execution, possibly due to residual peripheral neuro-orthopedic deficiencies.

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Table ronde

Version française

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Perspectives européennes de neuroréadaptation

Pr Stephanie Clarke WFNR président (6 mn).
Pr Volker Hoemberg, WFNR et EFNR Secretary (6 mn).
Pr Heinrich Binder, EFNR président (6 mn).
Pr Gert Kwakkel, Deutch Society of Neurorehabilitation, (6 mn).
Pr Caterina Pistarini, Italian Society of Neurorehabilitation (6 mn).
Pr T. Lejeune, Belgian Forum of Neurorehabilitation (6 mn).
Pr Dominic Pérennou, French Forum of NeuroRehabilitation (6 mn).

General discussion 40 mn.

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