Role of disease activity for decision making ability in early multiple sclerosis

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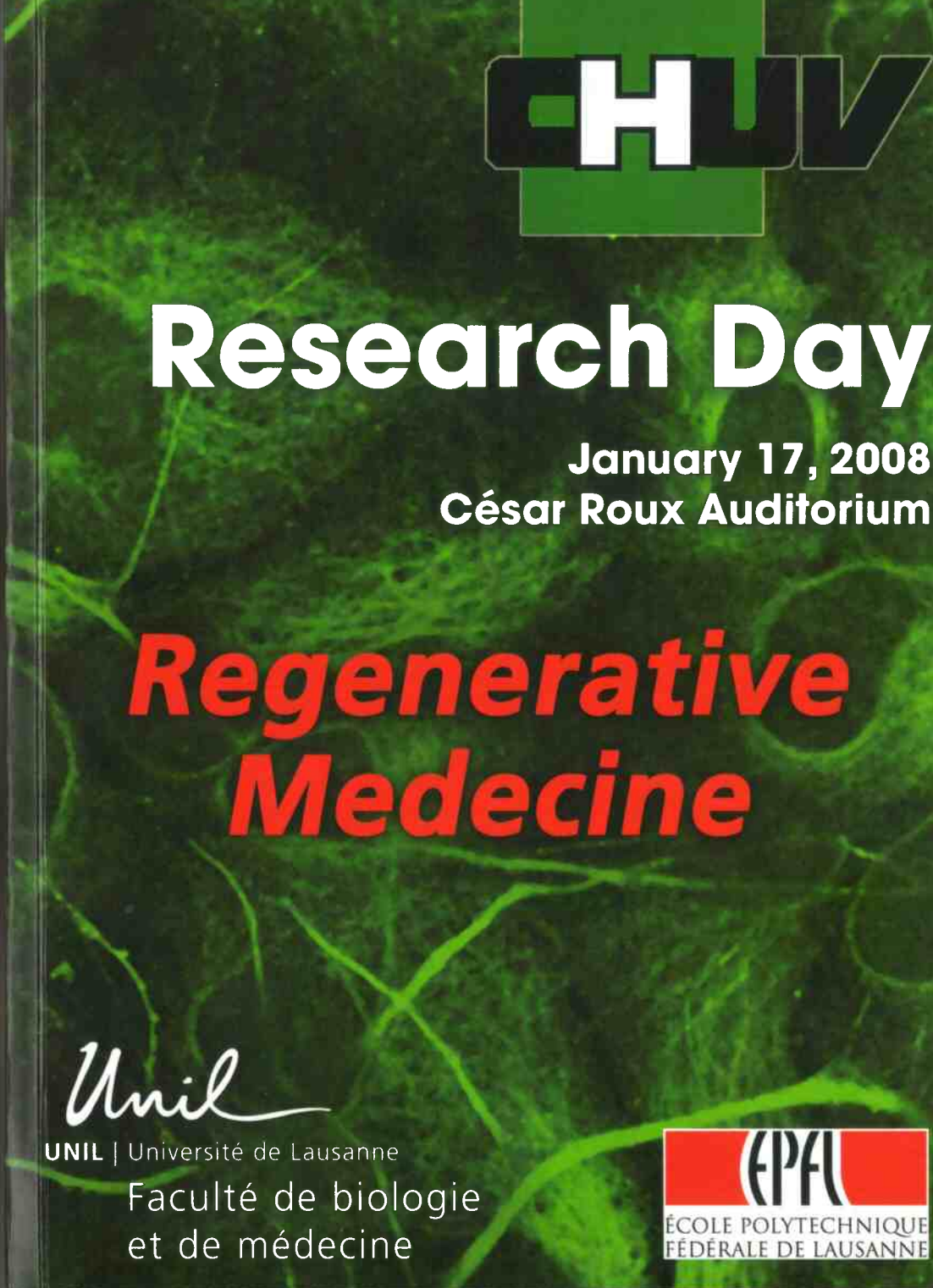
Neurology - CHUV[1], Social and Preventive Medicine - CHUV[2]

Background and purpose: Decision making (DM) has been defined as the process through which a person forms preferences, selects and executes actions, and evaluates the outcome related to a selected choice. This ability represents an important factor for adequate behaviour in everyday life. DM impairment in multiple sclerosis (MS) has been previously reported. The purpose of the present study was to assess DM in patients with MS at the earliest clinically detectable time point of the disease.

Methods: Patients with definite (n=109) or possible (clinically isolated syndrome, CIS; n=56) MS, a short disease duration (mean 2.3 years) and a minor neurological disability (mean EDSS 1.8) were compared to 50 healthy controls aged 18 to 60 years (mean age 32.2) using the Iowa Gambling Task (IGT). Subjects had to select a card from any of 4 decks (A/B [disadvantageous]; C/D [advantageous]). The game consisted of 100 trials then grouped in blocks of 20 cards for data analysis. Skill in DM was assessed by means of a learning index (LI) defined as the difference between the averaged last three block indexes and first two block indexes (LI=[(BI-3+BI-4+BI-5)/3-(BI-1+B2)/2]). Non parametric tests were used for statistical analysis.

Results: LI was higher in the control group (0.24, SD 0.44) than in the MS group (0.21, SD 0.38), however without reaching statistical significance (p=0.7). Interesting differences were detected when MS patients were grouped according to phenotype. A trend to a difference between MS subgroups and controls was observed for LI (p=0.06), which became significant between MS subgroups (p=0.03). CIS patients who confirmed MS diagnosis by presenting a second relapse after study entry showed a dysfunction in the IGT in comparison to the other CIS (p=0.01) and definite MS (p=0.04) patients. In the opposite, CIS patients characterised by not entirely fulfilled McDonald criteria at inclusion and absence of relapse during the study showed an normal learning pattern on the IGT. Finally, comparing MS patients who developed relapses after study entry, those who remained clinically stable and controls, we observed impaired performances only in relapsing patients in comparison to stable patients (p=0.008) and controls (p=0.03).

Discussion: These results raise the assumption of a sustained role for both MS relapsing activity and disease heterogeneity (i.e. infra-clinical severity or activity of MS) in the impaired process of decision making.


c-HUV
Research Day
January 17, 2008
César Roux Auditorium
Regenerative Medecine
Unil
UNIL | Université de Lausanne
Faculté de biologie
et de médecine
EPFL
ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

CHUV RESEARCH DAY 2008

Thursday, January 17th, 2008

"Regenerative Medicine"

08:30 **Presentation of the 2008 Research Day**
Professor Ivan Stamenkovic, Vice Dean for Research

08:45 **Keynote speaker 1**

Professor Philippe Menasché
Department of Cardio-Vascular Surgery
Hôpital Européen G. Pompidou, Paris
"Promises and pitfalls of skeletal myoblast therapy"

09:30 **Coffee & Posters**

10:30 **6 short talks**

12:00 **Keynote speaker 2**

Professor Giulio Cossu
Stem Cell Research Institute, Milano
"Towards a cell therapy for muscular dystrophy"

12:45 **Lunch, Coffee & Posters**

14:00 **Keynote speaker 3**

Professor Michele De Luca
Department of Biomedical Sciences, Modena
Epithelial Stem Cell Research Centre, Venice
"Epithelial stem cells and regenerative medicine"

14:45 **6 short talks**

16:15 **Coffee & Posters**

17:00 **Keynote speaker 4**

Professor Lior Gepstein
Dept of Physiology & Biophysics, Technion – Haifa, Israel
"Myocardial Regeneration by Human Embryonic Stem Cells"

17:45 **Poster Prizes Ceremony**

18:00 **Apéritif & Buffet**

ATTENDANCE IS FREE - NO REGISTRATION IS NECESSARY

NOTE: Posters will be displayed from
Wednesday January 16st early morning to Friday January 18th early morning.

12 short talks

Schedule	Names, departments	Titles
Morning		
10h30 - 10h45	**Boris Hinz** Laboratoire de biophysique cellulaire - EPFL	*"The myofibroblast - friend and foe in tissue regeneration"*
10h45 – 11h00	**Matthias Lutolf** Laboratoire de cellules souches et bioengineering - EPFL	*"Bioengineering artificial stem cell niches".*
11h00 – 11h15	**Corinne Kostic** Unité de thérapie génique et biologie des cellules souches – Hôpital Ophtalmique	*"Gene therapy preclinical studies for Leber congenital amaurosis"*
11h15 – 11h30	**Anne Zurn** Chirurgie expérimentale - CHUV	*"Delayed peripheral nerve priming improves regeneration of sensory axons into the spinal cord following dorsal root injury."*
11h30 – 11h45	**Meta Djojosubroto** Unité de thérapie génique et biologie des cellules souches – Hôpital Ophtalmique	*"Increased chromosomal aberrations and transformation of adult mouse retinal stem cells"*
11h45 – 12h00	**Paola Bonfanti** Chirurgie expérimentale - CHUV & Laboratoire de dynamique des cellules souches - EPFL	*"Thymic epithelial cells have skin potency"*
Afternoon		
14h45 – 15h00	**Dominique Pioletti** Laboratoire de biomécanique en orthopédie - EPFL	*"In Vivo evaluation of human fetal cells as allogenic cell source for tissue engineering"*
15h00 – 15h15	**Mikaël Martino** Laboratoire de médecine régénérative et de pharmacobiologie - EPFL	*"Controlling mesenchymal stem cells response to biomaterials with recombinant integrin-specific fibronectin fragments"*
15h15 – 15h30	**Dela Golshayan** Nephrologie et Centre de Transplantation d'organes - CHUV	*"Mechanisms of Allograft rejection and tolerance in transplantation"*
15h30 - 15h45	**Jonathan Bloch** Médecine Interne - CHUV	*"Spleen derived vascular progenitor cell transfer restores metabolic and vascular insulin sensitivity in high-fat diet insulin resistant mice"*
15h45 - 16h00	**Marc-Etienne Roehrich** Cardiologie – CHUV	*"Immunophenotypical analysis of putative cardiac progenitor cells isolated based on high ALDH activity from adult mouse and human hearts"*
16h00 – 16h15	**Mohamed Nemir** Dpt de Médecine - CHUV	*"Control of cardiac integrity via the Notch1 receptor pathway".*