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Deciphering Multiple Sclerosis disability progression in the elderly: a multicenter cohort study

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INTRODUCTION

More than half of current MS population are aged 55 years and older[1]

The ageing MS population is not well known and can't clearly benefit from DMT[2]

OBJECTIVES

Primary objective: to describe the dynamics of disability progression rates in MS patients between 65 and 75 years old (EDSS ≥ 4.0, EDSS ≥ 6.0, EDSS ≥ 7.0 milestones).

Secondary objectives: to describe secondary progression rates, relapses and other clinical, MRI and therapeutic data.

METHODS

Patients aged between 75 and 77 years old with MS onset before age 65 followed in 3 main large OFSEP database centers (Bordeaux, Rennes and Lyon) were identified. Patients were contacted again to collect retrospectively clinical, MRI and therapeutic data (OLDMUS study, ClinicalTrials.gov Identifier: NCT03854123).

Dynamics of disability progression rates (irreversible EDSS milestones) according to time were evaluated using unidimensional penalized parametric hazard models.[3;4] Baseline was defined as the 65th birthday of each patient.

RESULTS : Disability progression may decrease in the elderly after the age of 65 - 70

256/592 MS with available EDSS data from age 65 to 75 in the databases were included (65% female; mean EDSS 5.4 +/- 1.79 at age 65). Patients included in the study were older at MS onset than patients not included lacking EDSS data from age 65 to 75 : 32,8% late onset > 50 years vs 9,1%. There was no significant difference between the two populations in terms of EDSS and relapsing vs progressive forms of MS before the age of 65.

The event rates of disability progression (EDSS ≥ 4.0; EDSS ≥ 6.0) decreased from 65 years to 75 years. The yearly probability of disability progression to EDSS ≥ 4.0 (respectively EDSS ≥ 6.0) was around 21.1% (8.7%) at baseline and was 1.8% (6.2%) at 75 years-old. From age 65 to age 75, the cumulative probability of event (EDSS ≥ 4.0; EDSS ≥ 6.0; EDSS ≥ 7.0) was 54.5% (35.6-75.6); 52.1% (39.8-65.7) and 44.0% (35.1-54.1).

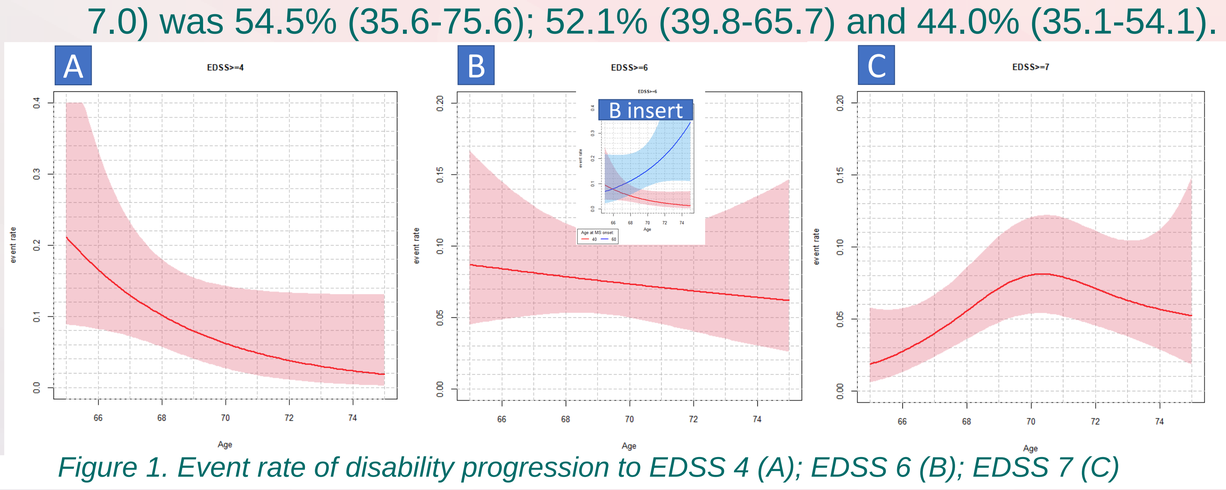


Figure 1. Event rate of disability progression to EDSS 4 (A); EDSS 6 (B); EDSS 7 (C)

The event rates of disability progression to EDSS ≥ 7.0 increased from 65 to 70 years and then decreased from 70 to 75 years

Upper left insert in the EDSS > 6 graph (B insert):
event rate of disability progression to EDSS 6 according to age at MS onset. Age at MS onset: 60 (blue line) or 40 years (red line).
From the age of 70, patients with MS for 30 years (age at MS onset=40) were less likely to develop an EDSS ≥ 6.0 than patients with MS for 10 years (age at MS onset=60).

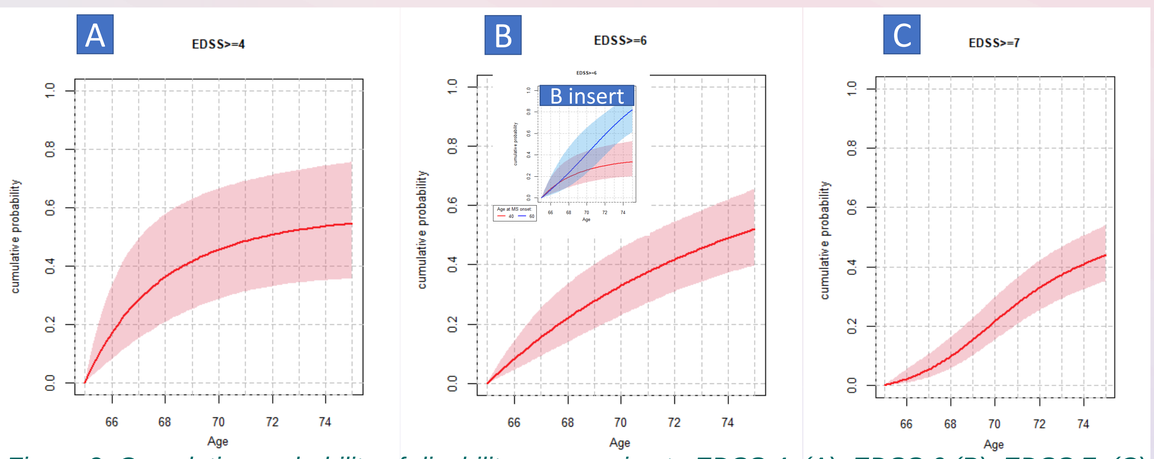


Figure 2. Cumulative probability of disability progression to EDSS 4 (A); EDSS 6 (B); EDSS 7 (C)

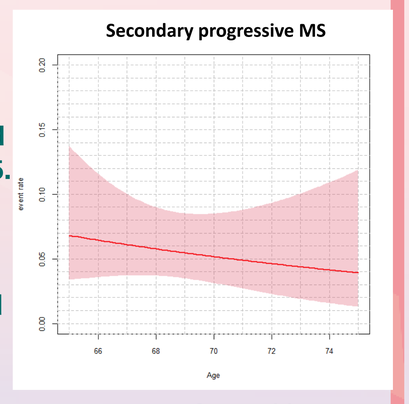
Upper left insert in the EDSS > 6 graph (B insert):
cumulative probability of disability progression to EDSS 6 according to age at MS onset. Age at MS onset: 60 (blue line) or 40 years (red line).

RESULTS: secondary endpoints

Secondary progression (SP) transition rates decreased between 65 and 75 years of age, from a yearly probability of reaching a SPMS phenotype of 6.8% at baseline to 3.9% at 75 years.

From age 65 to age 70, the risk of relapse remained stable (around 3.0% per year) and then decreased to 1.6% (0%-4.0%) at age 75.

Over the period 65 - 70 years, 13 patients with gadolinium (gd) enhancement were identified among the 75 patients who had an injected MRI (17.3%) whereas there were 5/57 (8.8%) over the period 70-75 years.



Event rate of transition to secondary progression

ACKNOWLEDGEMENT AND CONTACT INFORMATION

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This study used the french registry data Observatoire Français de la Sclérose En Plaques (OFSEP), was approved by the OFSEP scientific committee, and is compliant with French regulatory and General Data Protection Regulation requirements, including informed consent.

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CONCLUSIONS

MS may switch off in the very-old patients, especially after the age of 70, with a decrease in disability progression, a decrease in the achievement of a secondary progression, very few relapses and uncommon MRI activity

References

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