



Optimal responders to autologous hematopoietic stem cell transplant versus natalizumab in relapsing-remitting multiple sclerosis

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Introduction

- Autologous hematopoietic stem cell transplant (AH SCT) effectively controls relapse activity in relapsing-remitting multiple sclerosis (MS).^{1,2}
- Compared with natalizumab, AH SCT provides slightly greater relapse suppression and a higher likelihood of disability improvement.¹
- No conclusive evidence of a difference in disability worsening between AH SCT and natalizumab.¹
- Which individuals derive most benefit from AH SCT when compared with natalizumab is unknown.

Aim

To identify optimal responders to AH SCT compared with natalizumab.

Methods

Data source

International MSBase registry and 6 specialist MS centers with AH SCT program (in Ottawa, Canada; Uppsala, Sweden; Sheffield, UK; Bergen, Norway; Sydney, Australia; and Melbourne, Australia)

Inclusion criteria

- First exposure to one of the study therapies
- Persistence on study therapy for at least 1 month
- Minimum recorded follow-up 2 months prior to treatment start
- EDSS score at treatment commencement and 2 postbaseline EDSS scores (including ≥ 1 while undergoing treatment)

Outcomes

Risk of a relapse and 6-month confirmed disability improvement

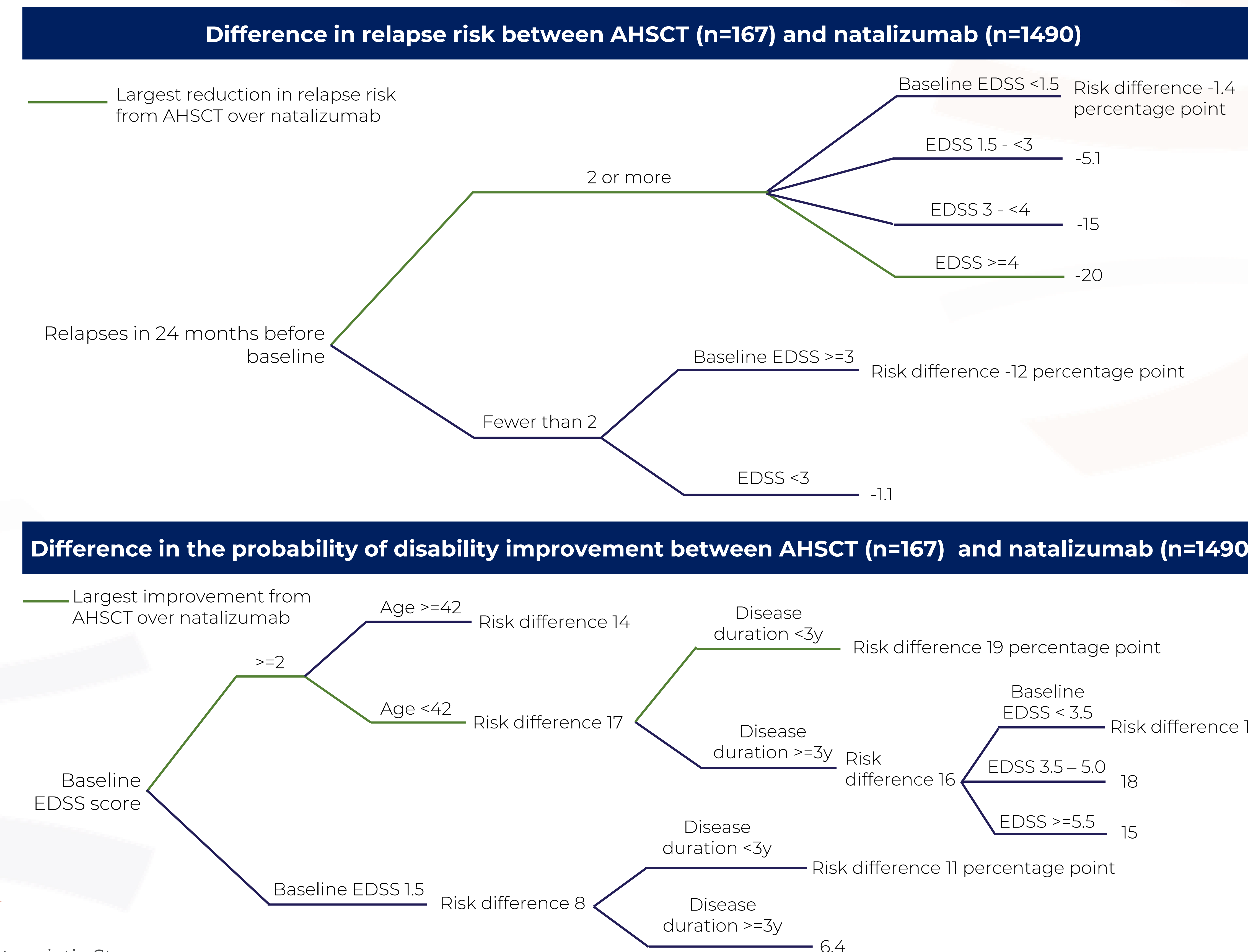
Statistical methods

- Per-protocol design
- Inverse probability of treatment weighting to ensure balance between treatment arms
- Individualised risks of relapse and disability improvement, during the first year of treatment, estimated within a counterfactual framework
- Treatment effect heterogeneity assessed using conditional average treatment effects and quantified as risk differences between AH SCT and natalizumab recipients

References

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Results



Conclusions

Patients with ≥ 2 relapses in the 24 months before treatment initiation and EDSS ≥ 3 showed the greatest relative relapse suppression with AH SCT versus natalizumab

Patients with EDSS ≥ 2 and MS duration < 3 years showed the greatest relative benefit in disability improvement with AH SCT versus natalizumab

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