Appendix

Inclusion criteria of the studies on MS included in this review

ASTIMS 2015, n=21

Patients eligible for the study had clinically defined MS, a secondary progressive or relapsing-remitting form that accumulates disability between relapses, with a documented worsening during the last year (1 step of EDSS, or 0.5 when EDSS is between 5.5 and 6.5), in spite of conventional therapy (interferon-b or glatiramer acetate or immunosuppressive therapy), and presence of one or more gadolinium enhancing areas on MRI. The EDSS score had to be between 3.5 and 6.5.

Burman et al. 2014, n=48

Patients described in the report had a diagnosis of RRMS; aggressive disease with high relapse frequency; short duration of aggressive disease with documented potential for recovery during the previous 6 months; and failure of conventional treatment. About half the patients did not meet one or more of the above-mentioned clinical criteria for HSCT as rescue therapy for aggressive RRMS; the major exception was the eight patients with progressive MS who were treated on a compassionate basis.

Burt et al. 2015, n=151

Patients who were treated according to the study protocol underwent transplant and met all the following criteria: (1) had relapsing-remitting MS defined as acute relapses followed by partial or complete recovery and stable clinical manifestations between relapses, (2) fulfilled revised McDonald Diagnostic Criteria for MS, (3) treatment was unsuccessful with at least 1 FDA-approved drug, (4) had an Extended Disability Status Scale (EDSS) score from 2.0 to 6.0, (5) were aged 18 to 55 years, and (6) during the preceding year, had either at least 2 relapses treated with a corticosteroid or 1 relapse treated with a corticosteroid and additional gadolinium-enhanced lesions on magnetic resonance imaging (MRI) scan at a separate time.

In addition, there were also patients treated off the study protocol on a compassionate basis for secondary-progressive MS, which was defined as a gradual progression of disability with or without superimposed relapses, or received HSCT for other reasons, including (1) brainstem, visual, or cognitive impairment with high risk of further paraplegic, quadriplegic, visional, or cognitive impairment, (2) EDSS score greater than 6.0, (3) treatment was unsuccessful with currently available FDA-approved drugs, (4) coexisting autoimmune or neurological disease, (5) allergy to gadolinium, (6) older than 55 years, and (7) tumefactive MS.

Atkins et al. 2016, n=24

Inclusion criteria were: age 18-50 years; multiple early relapses; early development of sustained disability measured by the EDSS affecting motor control with cerebellar or pyramidal Kurtzke Functional System score of at least 3.0 within 5 years of disease onset; evidence of on-going clinical disease activity despite at least 1 year of immunomodulatory or immunosuppressive treatment (either at least two disabling relapses in the year before enrolment, three disabling relapses in the 2 years before enrolment, or deterioration of 1 point or more on the EDSS in the 18 months before

enrolment if the baseline EDSS score was ≤5.0, or of 0.5 points on the EDSS if the baseline score was >5.5); an EDSS score of 3.0-6.0 with a cerebellar or pyramidal Kurtzke Functional System score of at least 3.0; and brain MRI satisfying the Paty or Fazekas criteria for diagnosing multiple sclerosis.

Nash et al. 2017, n=25

Eligible patients were aged 18 to 60 years and had a diagnosis of MS according to the McDonald criteria with: (1) RRMS, (2) EDSS scores of 3.0 to 5.5 at baseline, (3) lesions demonstrated on brain MRI that were consistent with MS, (4) disease duration of less than 15 years, and (5) failure of disease-modifying therapies, defined as 2 or more clinical relapses during 18 months of therapy that were associated with an increase in the EDSS score (by 1.0 for pre-relapse EDSS score of 3.0-3.5 or by 0.5 for an EDSS score of 4.0-5.5 and sustained for ≥4 weeks). Patients "off therapy" during an 18-month period in which they had 2 relapses and an increase in the EDSS score were also eligible if they had previously met the criteria of treatment failure "on therapy" within 4 years of determining study eligibility.