Siponimod Effectiveness and Safety in Secondary Progressive Multiple Sclerosis in a real-world setting

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INTRODUCTION AND AIMS

Siponimod is a disease modifying therapy (DMT) approved for the treatment of secondary progressive multiple sclerosis (SPMS). Data from the pivotal trial proved its efficacy in reducing the risk of confirmed disability progression. However, data regarding its efficacy and safety in a real world-setting are still sparse

METHODS

Twenty-eight patients underwent clinical monitoring and 3T MRI scanning. Disease activity was assessed using the No Evidence of Disease Activity-3 (NEDA-3) index. Cerebral volume loss was quantified via the Structural Image Evaluation, using Normalization, of Atrophy (SIENA) software.

Table 1. Demographic Characteristics of the Study Population

Variable	Median [Min–Max]
Age	58 years [45–69]
Sex	17 F; 11 M
Age at Siponimod start	55 years [43–65]
Disease duration at Siponimod start	21 years [2–46]
Subjects with comorbidities	24 (86%)
Number of prior DMTs	2 [0–6]
EDSS	4.5 [1–7]

RESULTS

Twenty-eight subjects with SPMS were followed for a median duration of 23 months [median age 58 (45-69), median disease duration 21.5 years (2-46), median number of prior DMTs 2 (0- 6), median Expanded Disability Status Scale (EDSS) 4.75 (1-7)]. 86% of subjects presented with comorbidities. **Twenty-one patients (75%) achieved NEDA-3 status**; 4 subjects exhibited disease progression and 3 demonstrated MRI activity. The mean Total Intracranial Volume (TIV) (data available for n=18 subjects) did not significantly decrease between baseline and one-year follow-up (1398,47 mL and 1394,35 mL). The annualized rate of brain volume loss (AR-BVL) at one year was less than the physiological cutoff of 0.4% in 44.4% of the subjects. Eight patients experienced adverse drug events (n= 1 lymphopenia, n=1 elevated liver enzymes, n=2 cardiovascular events, and n=4 others). During the observation period 35.7% of patients discontinued siponimod therapy, due to lymphopenia or infections (n=3), disease progression (n=1), elevated liver enzymes (n=1), cardiovascular events (n=1), others (n=4). One patient exhibited disease reactivation following siponimod cessation.

DISCUSSION

Our findings are consistent with existing literature, demonstrating the **efficacy of siponimod in achieving NEDA-3 status in patients with advanced multiple sclerosis**. The observed adverse events were predominantly mild, indicating a **favorable safety profile** for siponimod in elderly and multimorbid population

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