LB61

The reality of the acute treatment for ischemic stroke in a Brazilian reference hospital

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Introduction: The use of endovenous *alteplase* in the acute treatment of ischemic stroke (IS) is well established (NINDS, 1995; ECASS, 1995-2008) regarding an *endovenous treatment* in the therapeutic window of 4.5 hours since the begging of the ischemic symptoms. The *Hospital da Restauração (HR)* is a public reference hospital located in the Northeast region of Brazil, the largest reference centre in the city, which attends an average of 4,500 patients with stroke per year. This paper aims to determinate the time between the IS ictus and the clinical evaluation by a neurologist in the HR and quantify the number of endovenous thrombolysis performed.

Methods: Observational, cross-sectional, retrospective and analytical study, with 492 patients diagnosed with a stroke, treated between November and December 2017.

Results: The IS group (n=274) had an ictus-neurologist interval time of 40.6 ± 59.1 hours (95% CI 33.5-47.6, median 24 hours) versus hemorrhagic stroke (n = 49) with 31.4 ± 39.2 hours (95% CI 22.1-42.6, median 16 hours) (p = 0.1430; Mann-Whitney test). Thirty-four IS patients were classified as „wake-up stroke“ and 19 as transient ischemic attacks. 116/492 (23.6%) of the patients did not have a defined ictus-neurologist time. Only 27/396 (6.8%) patients with IS arrived in the therapeutic window, and only 7/27 (26%) received thrombolytic therapy.

Conclusion: In the most majority of the cases, the time interval between the ictus and the first neurological evaluation was too long for an adequate acute endovenous treatment of the ischemic stroke.

LB62

Ofatumumab vs Teriflunomide in Relapsing Multiple Sclerosis: Analysis of No Evidence of Disease Activity (NEDA-3) from ASCLEPIOS I and II Trials

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Introduction: Ofatumumab, the first fully human anti-CD20 monoclonal antibody, demonstrated superior efficacy over teriflunomide in the Phase 3 ASCLEPIOS I/II relapsing multiple sclerosis (RMS) trials. We evaluated the effect of subcutaneous ofatumumab 20 mg (monthly) versus oral teriflunomide 14 mg (once daily) in achieving no evidence of disease activity (NEDA-3) and separately assessed the annualised relapse rate (ARR) and gadolinium-enhancing (Gd+) T1 lesions from the ASCLEPIOS I/II trials.

Methods: Data were pooled from ASCLEPIOS I (n=927) and II (n=955) trials. Outcomes included NEDA-3 (defined as composite of absence of 6-month confirmed disability worsening [6mCDW], confirmed MS relapse, new/enlarging T2 lesions and Gd+ T1 lesions) and its individual components (logistic regression model), ARR by time-interval and Gd+ T1 lesions (negative binomial model for both).

Results: The odds of achieving NEDA-3 with ofatumumab versus teriflunomide was >3-fold higher at Month (M) 0–12 (47.0% vs 24.5% patients; odds ratio [95% confidence interval (CI)]: 3.36 [2.67–4.21], p<0.001) and >8-fold higher at M12–24 (87.8% vs 48.2% patients; 8.09 [6.26–10.45], p<0.001). Over 2 years, a higher proportion of ofatumumab- than teriflunomide-treated patients were free from 6mCDW (91.9% vs 88.9%), relapses (82.3% vs 69.2%) and lesion activity (54.1% vs 27.5%). Ofatumumab significantly reduced

ARR versus teriflunomide at all cumulative time-intervals: M0–3 (p=0.011) and subsequent M0–27 (p<0.001). Ofatumumab significantly reduced the number of Gd+T1 lesions per scan by 95.9% versus teriflunomide (mean [95% CI]: 0.02 [0.01; 0.03] vs 0.50 [0.42; 0.59]; p<0.001).

Conclusions: Ofatumumab increased the probability of achieving NEDA-3 and demonstrated superior efficacy versus teriflunomide in RMS patients.

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LB66

Employment status and associated outcomes in patients with CIS treated with interferon beta-1b from the 15-year follow-up of the BENEFIT trial

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Introduction: Multiple sclerosis (MS) may affect patients' ability to work. Employment status of patients followed for 15 years after first disease manifestation and treated early with interferon beta-1b was examined to identify associated factors.

Methods: Prospective follow-up of patients continued to Year 5 in the BENEFIT trial. Employment status was assessed 11 years after the first clinical event and at Year 15 grouped as working >=20 hours/week, <20 hours/week, or non-working. Other assessments included Expanded Disability Status Scale (EDSS), Paced Auditory Serial Addition Test (PASAT-3), Center for Epidemiologic Studies Depression (CES-D) scale, Fatigue Scale for Motor and Cognitive Functions (FSMC), EuroQol-5D Health-Related Quality of Life (EQ-5D HRQoL), Functional Assessment of Multiple Sclerosis (FAMS), Symbol Digit Modality Test (SDMT) and normalized brain volume (NBV) stratified to employment status.

Results: Of the originally randomized 468 patients, 261 (55.8%) participated in BENEFIT 15; employment status was available for 257/261 (98.5%). At Year 15, 173 (66.3%) were employed compared to 200 (76.6%) at disease onset. Employed patients had lower EDSS, fatigue, depression and better QoL than non-employed patients. Patients becoming non-employed between Years 11 and 15 showed significantly higher EDSS, FSMC, and CES-D, but not lower PASAT or NBV at Year 11 (Table 3).

Conclusion: At 15 years, employment status between original randomization arms was similar. Greater levels of disability, cognitive impairment, depression, fatigue, and lower HRQoL were associated with reduced working hours and non-employment. Becoming non-employed between Years 11 and 15 was predicted by higher disability, fatigue and depression, but not by cognitive impairment at Year 11.