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A central role of interleukin-6 (IL-6) as key player in the pathophysiology of NMOSD, is strongly supported by the significant reduction in risk of relapse as previously demonstrated in the SAkuraSky study of the IL-6R inhibitor satralizumab for treatment of NMOSD as an add-on therapy. Here, we report the results of additional analyses (ClinicalTrials.gov number, NCT020728884).

83 patients meeting NMOSD diagnostic criteria with/without AQP4-Ab and at least two relapses in the last 2 years were randomly assigned to receive satralizumab 120 mg subcutaneously or placebo at week 0, 2 and 4 and every 4 weeks thereafter, added to stable immunosuppressant treatment. The primary endpoint was time to first protocol-defined relapse. Pre-specified additional analyses included efficacy in AQP4-Ab positive vs. negative subgroups, and effect on annualized relapse rate (ARR). Hazard ratios (HRs) were based on Cox proportional hazards model.

Satralizumab added to baseline treatment significantly reduced risk of protocol-defined relapse by 62% vs placebo; HR, 0.38; 95% confidence interval (CI), 0.16 to 0.88; P=0.0184. Pre-specified additional analyses showed a 79% relapse risk reduction with satralizumab vs placebo in AQP4-Ab(+) patients (n=55; HR, 0.21; 95% CI, 0.06 to 0.75) and 34% in AQP4-Ab(-) patients (HR 0.66; 95% CI, 0.20 to 2.24). In the overall study population, ARR was 0.11 (95% CI, 0.05 to 0.21) when treated with satralizumab vs 0.32 (95% CI, 0.19 to 0.51) with placebo.

Treatment with satralizumab as add-on to baseline immunosuppressant therapy significantly reduced relapse risk, particularly in AQP4-Ab(+) NMOSD patients.

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Fingolimod for Relapsing-Remitting Multiple Sclerosis: The Experience from Saudi Arabia

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Fingolimod (Gilenya, Novartis pharmaceuticals) is the first oral disease-modifying therapy for reducing the frequency of clinical relapses and delaying disability progression in patients diagnosed with relapsing-remitting multiple sclerosis (RRMS). In this study, we aim to evaluate the outcome of Saudi patients with active RRMS treated with fingolimod and compare the result with other studies.

We conducted a retrospective multicenter observational study involving 100 patients with RRMS at King Abdulaziz Medical City in Jeddah and Riyadh, Saudi Arabia. The inclusion criteria consisted of patients above the age of 18 years, diagnosed with RRMS according to the revised McDonald criteria, and are currently receiving or received fingolimod treatment in the past for a minimum of six months.

The mean baseline expanded disability status scale (EDSS) score was 2.95±2.58 (range 1-7; median 1.75). The mean EDSS score at last follow up was 2.95±2.65 (range 1-10; median 2.00). The mean annualized relapse rate (ARR) was significantly reduced from 1.24±1.39 at baseline to 0.43±1.15 at the last follow-up (P = 0.001). In addition, radiological activity was significantly improved at follow-up magnetic resonance imaging (MRI) studies when compared to the baseline.

Our multi-center study provides further evidence on the efficacy of fingolimod in reducing clinical and radiological disease activity in patients with RRMS. The reduction in relapse rate, stabilization of EDSS score, and improvement in MRI images were similar to other observational studies conducted in different countries worldwide. Fingolimod appears to be a well-tolerated for our MS population.

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The Use Natalizumab in Multiple Sclerosis Patients During Pregnancy is Safe and Prevents Disease Reactivation

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Data of the use of natalizumab during pregnancy is limited in Multiple Sclerosis (MS) patients. We aimed to assess the effectiveness and safety of natalizumab in MS during pregnancy.

The cohort constituted 3 groups; patients continued natalizumab during pregnancy till 28th gestational week (group 1), patients discontinued natalizumab before pregnancy (group 2) and a control group included women who did not get pregnant (group 3). Relapses and MRI new T2/ gad-enhancing lesions during pregnancy and at one-year post delivery were compared.

68 patients were identified. At baseline, there were no significant differences across the three groups in mean age (p = 0.07), mean age at onset (p = 0.44), mean disease duration (p = 0.21), annualized relapse rate (p = 0.27) and MRI measures (p = 0.25). The mean number of natalizumab infusions was 44 ± 26.05. During pregnancy, no relapses occurred in group 1 while four patients (28.6%) sustained relapses in group 2 (p = 0.03). At last follow-up visit, annual relapse rate was significantly higher in group 2 (0.75 ± 0.51), compared to groups 1 & 3 (0.14 ± 0.36 & 0.05 ± 0.22; p < 0.001) respectively. The proportion of patients with MRI activity was significantly higher in group 2 compared to groups 1 and 3 (50%, 7.1%, and 2.5%; p = 0.03). Abortion rate was not statistically significant between group 1 and 2 (p = 0.47) and no fetal malformation was observed.

Patients who continued using natalizumab during pregnancy remained in remission. The use of natalizumab during pregnancy was safe.

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Pregnancy Outcome in Multiple Sclerosis Patients Exposed to Disease Modifying Therapies

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Multiple Sclerosis (MS) patients may be exposed to disease modifying therapies (DMTs) during the first trimester in unplanned pregnancies. We aimed to evaluate pregnancy outcomes in MS patients exposed accidentally to DMTs.

Data of MS pregnant women were extracted from the national MS registry. Details of drug exposure and pregnancy outcomes were collected. Pregnancy outcomes in women who were exposed to DMTs were compared to women who discontinued DMTs prior to conception.

Outcomes of 142 pregnancies (120 women) were assessed; 80 (56.3%) of which were exposed to DMTs. There were no significant differences between DMT-exposed pregnancies and the non-exposed in terms of mean age ($p = 0.95$), age at onset ($p = 0.84$), age at pregnancy confirmation ($p = 0.37$) or disease duration ($p = 0.35$). In the exposed group, the most used DMTs were beta interferons (n=50; 35.2%), natalizumab (n=28; 19.7%), fingolimod (n=24; 16.9%), and dimethyl fumarate (n=5; 3.5%). In the non-exposed group, 53.2% (n=33) of patients were not on DMTs, while 21% (n=13) were on fingolimod, 19.4% (n=12) were on beta interferons and 4.8% (n=3) were on dimethylfumarate. Most pregnancies (~85%) resulted in full term births. There were no significant differences between the exposed and non-exposed in the rate of premature birth (5% versus 3.2%) and abortions (10% versus 11.3%) [$p = 0.47$]. No major fetal malformations were reported.

Most of the pregnancies in our cohort were exposed to disease modifying therapies. The pregnancy outcomes in patients exposed to DMTs is comparable to those were not exposed.

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1-Year Follow Up Efficacy of Fingolimod in the Treatment of Relapsing-Remitting Multiple Sclerosis (RR-MS) Among Saudi Patients

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Fingolimod is a sphingosine 1-phosphate (S1P) receptor modulator and was the first oral therapy to be approved for multiple sclerosis (MS), receiving a broad first-line indication for relapsing-remitting forms of MS (RR-MS) in the United States of America (USA) in 2010. Fingolimod has shown a significant effect on clinical and magnetic resonance imaging outcome. The aim of this study is to assess the clinical and radiological efficacy of 1 year of Fingolimoid in patients with RR-MS.

A retrospective study of Saudi patients diagnosed with relapsing RR-MS and managed with Fingolimod at Prince Sultan Military Medical City (PSMMC), Riyadh, Saudi Arabia, between 2014 and 2016. MS diagnosis was confirmed based on clinical relapses and T1 and T2 magnetic resonance imaging (MRI) findings consistent with Mcdonald criteria. Clinical characteristics including total number of relapses, Expanded Disability Status Scale (EDDS), along MRI findings outcomes were retrieved from medical records of compliant patients who has at least a 1- year follow up.

Between January 2014 and December 2016, 20 patients (15 women) were prescribed fingolimod 0.5 mg daily, either as first-line or escalation therapy. All patients were complaint to the treatment for at-least 1 year follow up. Mean age was 32.25+/-11.02. Furthermore, 19 patients had relapsing-remitting multiple sclerosis. The annual relapse rate (ARR) was 0 in 18 patients along with n EDSS of 0 in 15 patients. Moreover, there was significant reduction of gadolinium enhancement lesion on MRI in 17 patients and no new lesions in all. 85% of the fingolimod-treated petients achieved no evidence of disease activity (NEDA-3).

Fingolimod showed high efficacy in the stabilization of relapsing-remitting multiple sclerosis among Saudi patients following 1 year of treatment. This was reflected in terms of clinical and radiological findings. Fingolimod robust effect on NEDA-3 was quite clear.

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Rituximab is a Safe and Efficient Treatment in Multiple Sclerosis and Neuromyelitis Optica Spectrum Disorder: Real World Observational Study

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Rituximab is a safe, efficient and off-label drug in treatment of multiple sclerosis (MS) but is also approved in NMOSD.

100 patients entered the 2-year rituximab cohort study in our center, of whom 20 were males and 80 females. The mean age was 36. Out of the 100 patients, 58 were diagnosed with relapsing-remitting MS (RRMS), 33 with secondary progressive MS (SPMS), 4 with primary progressive MS (PPMS), 3 with neuromyelitis optica spectrum disorder (NMOSD), 1 with recurrent isolated optic neuritis (RION) and 1 with chronic relapsing inflammatory optic neuropathy (CRION). Rituximab 500-1000mg was prescribed every 6 months. 16 patients were treatment-naïve. Rituximab was discontinued in 9 patients for pregnancy planning or other reason. Five continued to receive their infusions in other centers.

80% of our patients were relapse-free during these 2 years. Annual relapse rate was reduced by 85% in multiple sclerosis patients. 47% had a stable Expanded Disability Status Scale (EDSS), 34% had improved EDSS and 17% had progression of their disability. Patients with other disorders (NMOSD, RION and CRION) were stable with no evidence of relapse or progression. 88% experienced infusion-reactions as acute advere events and 51% had delayed adverse events. All adverse events were not serious.

Rituximab is a safe and efficient drug in multiple sclerosis and neuromyelitis optica spectrum disorder.

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Expert Opinion on the Use of Cladribine Tablets in Clinical Practice for the Treatment of Relapsing Multiple Sclerosis

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