Sclerosis Drug Prescription Treatment Programme (PLSM). Difficulties faced by multiple sclerosis (MS) patients in meeting the strict selection criteria for the Programme result in a delayed commencement of the treatment.

The aim of the multi-centre study was to determine the period of time from disease diagnosis to the commencement of treatment including the assessment of disease stage and response to therapy.

Clinical and demographic parameters such as gender, age, smoking, date of MS diagnosis, commencement of treatment, disability according to EDSS were analyzed. The disease activity was determined by the annualized relapse rate (ARR) and by MRI.

The group studied comprised 312 patients: 215 women and 97 men; 224 non-smokers and 88 smokers. Average time from disease diagnosis to commencement of treatment was 4.0 ± 3.9 years. Average patient age was 37.8 ± 9.8 years, EDSS was 2.1 ± 1.1 and ARR 1.2. After 2 years of treatment, ARR was 0.08. Average EDSS after one and two years of treatment was 2.14 ± 1.1 and 2.11 ± 1.0, respectively. New lesions were detected with MRI in 25,3% and 17,4% of patients after one and two years of treatment, respectively. Positive correlation between smoking and occurrence of new lesions in MRI was observed ($r = 0.29$, $p < 0.01$).

With the current patient selection criteria for PLSM in place, the immunomodulatory treatment in MS continues to start too late with regard to the internationally accepted standards. Smoking seems to worsen course of MS.

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1023
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Atopic myelitis, a common form of myelitis with good long-term prognosis: a hospital-based experience

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Atopic myelitis (AM) has been claimed to be a distinct form of myelitis with predominantly sensory and autonomic presentation. Because the lesions are commonly longitudinally extensive, it is crucial to differentiate AM from neuromyelitis optica (NMO).

All patients presented with myelitis at Eulji Hospital from January 2004 to March 2014 were included. Patients had myelopathic presentation with either CSF pleocytosis or enhancing cord lesion. Among myelitis, diagnosis of AM was made if hyperIgEemia or atopic diathesis is present after clinicolaboratory exclusion of other relevant disorders like NMO, MS and related disorders. Patients were interviewed about relapses and current disability with Functional Independence Measure & Functional Assessment Measure (FIM-FAM) and Spinal Cord Independence Measure-III (SCIM-III). The IRB approved the study.

Forty-six myelitis patients were included (M:F, 25:21; onset, 44.3 ± 14.1 years). Among them, 18 had AM (42% of all myelitis, M:F, 14:4; onset, 43.4 ± 14.0 years). Five AM patients have reported relapses (27.8%, M:F, 5:0) and there were no significant differences in regards to sex, age of onset, serum IgE, or sensitization to house dust mite, except for status of atopic diathesis (3/5 vs. 1/13, $p < .05$) and duration from onset to nadir (156.4 ± 80.6 vs. 70.4 ± 67.5, $p < .05$). Functional status of AM patients was well preserved regardless of relapses (9 patients; FIM-FAM, 201 ± 18.7; SCIM-III, 95.6 ± 9.5) with disease duration of 6.2 ± 3.2 years.

Most AM patients presented with subacute/chronic progressive manifestation over months. Almost all reported relapses in some AM patients were separated by a few months from the inaugural events, and then there were no further relapses. This suggests that reported relapses be mere symptomatic aggravations during its protracted course. The clinical characteristics and prognosis according to presence of relapses were not different.

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1024
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Literature update on intramuscular interferon beta-1a outcomes from four recent phase 3 trials

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Background: Intramuscular (IM) interferon (IFN) beta-1a was one of the first disease-modifying therapies (DMTs) approved for relapsing-remitting multiple sclerosis (RRMS) treatment. However, in the ~20 years since its initial approval, MS knowledge and management have evolved, and IM IFN beta-1a is now being evaluated as a reference/comparator in trials of new DMTs.
Objective: To examine the apparent consistent and/or increased effectiveness of IM IFN beta-1a in recent clinical trials versus its registration trial.
Materials/Methods: MEDLINE and congress abstracts (1/2010-5/2015) were searched using MeSH terms that included "multiple sclerosis relapsing-remitting," "interferon-beta," "phase 3," and "randomized controlled trial." Four trials of IM IFN beta-1a at 30 mcg/week versus other DMTs were identified (BRAVO, CombiRx, DECIDE, and TRANSFORMS). Key outcomes from each study (annualized relapse rate and 3- or 6-month confirmed Expanded Disability Status Scale [EDSS] progression) were compared with those from the IM IFN beta-1a RRMS registration trial (MSCRG).
Results: Baseline characteristics were generally similar among all studies (age, 36-39 years; relapses in previous year, 1.0-1.7; EDSS score, 2.0-2.5). Fewer relapses/patient-year were observed with IM IFN beta-1a in all 4 recent studies (BRAVO, 0.26; CombiRx, 0.16; DECIDE, 0.39; TRANSFORMS, 0.33) than in MSCRG (0.61). Percentages of patients with confirmed EDSS progression in each study was as follows: BRAVO, 8%-11%; CombiRx, 22%; DECIDE, 18%-20%; TRANSFORMS, 8%; MSCRG, 21%).
Conclusions: The apparent increased effectiveness of IM IFN beta-1a in recent studies may stem from improvements in MS management relative to ~20 years ago and may reset expectations for treatment outcomes going forward.
Support: Biogen.

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1025
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MS & Demyelinating Diseases
Use of administrative database to describe physician services utilization and care patterns in multiple sclerosis in France

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Background: As multiple sclerosis (MS) is a chronic disease which starts at young adulthood, overall care consumption is known to be high in patients. This has never been precisely described in France although the number of prevalent cases is estimated to be 100,000. French health insurance database is now open to researchers through a random sample of 1/97th of national health system beneficiaries.

Objective: Describe physician services utilization and care patterns in multiple sclerosis in France using a sample of the national health insurance system.
Materials and methods: Study population was defined according to specific MS codes in hospital admissions (International Classification of Diseases 9/10) codes and prescription claims. The study period was 2007-2012. Physician service utilization (treating physician, neurologists and others) and hospitalizations rates (all-cause and MS-related) were measured in people affected with MS. Differences according to gender, year of birth, year of MS onset, and region of residence were assessed.
Results: Pilot study was conducted for the year 2007 only and is the only available up to now. A total of 621 MS cases (453 women and 168 men) were identified. Women and young patients had a higher number of medical visits than men and older patients respectively. The number of medical at-home visits increased with age. Moreover physician service utilization differed according to administrative regions and seemed to be linked to the medical density.
Discussion: The present study will be the first one investigating the care patterns in MS in France using administrative database.

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1026
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MS & Demyelinating Diseases
Unenhanced CT may be more effective in distinguishing tumefactive demyelinating lesions from glioma and primary central nervous system lymphoma

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Objective: To evaluate the role of brain CT scanning for distinguishing tumefactive demyelinating lesions (TDLs)from glioma or primary central nervous system lymphoma (PCNSL).
Methods: 60 TDLs and 65 gliomas and 30 PCNSLs were pathologically diagnosed, whose brain CT imaging were retrospectively reviewed and compared between brain tumors and TDLs.
Results: (1) On unenhanced CT imaging, there were 64 of 95 brain tumor cases (67.4%, including 39 gliomas and 25 PCNSLs), in whose brain lesions hyperdense were observed, and isodense lesions were found in 11 of 95 cases (11.6%, 7 gliomas and 4 PCNSLs), and hypodense lesions in 20 of 95 cases (21.1%, 19 gliomas and 1 PCNSLs). In contrast, all the lesions of 58 TDLs($n = 60$, 96.7%) showed hypodense, and only 2 TDLs had isodense lesions. (2) The hyperdense lesions of WHO grade II, III and IV were respectively observed in 10, 19, and 10 cases, and accordingly respectively in 3, 3, and 1 cases for isodense lesions, so there were no difference between different grade ($x^2 = 3.138$, $P = 0.534$). (3) According to the shape of hyperdense lesions of the 95 primary brain tumors, 23 cases (11 gliomas, 12 PCNSLs) manifested with symmetric hyperdense mass, 18 cases (8 gliomas, 10 PCNSLs) with diffused hyperdensed lesions, and 19 cases (16 gliomas, 3 PCNSLs) with ring-shaped hyperdense lesions, only 4 gliomas with asymmetric hyperdense patches.
Conclusions: CT scan as a simple, economical and practical examination could make significant role of differentiating TDLs from glioma or PCNSL and could be used as a meaningful adjuvant method for MRI. The hyperdense or isodense lesions on unenhanced CT may suggest glioma or PCNSL more than TDLs.

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1027
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MS & Demyelinating Diseases
Overview of multiple sclerosis in the medical services of "Petroleos Mexicanos" from April 2009 to April 2015

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MS has been considered as a rare disease in Mexico. The Mexican Oil Company "Petroleos Mexicanos"(PEMEX), has its own medical system which provides healthcare to a closed population of about 800000 people.
Methods: We identify the electronic records of the patients with diagnosis of MS, coded G35, by the ICD10, form April 1, 2009 to April 1, 2015.
Results: 4716 consultations coded as G: 35 were done: 229 patients. 59 wrong diagnosis Being eligible 170 patients: 126 women and 44 men. Highest peak: women between 25 and 44 years. 125 patients had remitting relapsing EM; 33 had progressive forms; 4 had remained with clinical isolated syndrome, and 3 with radiological isolated syndrome. 2 had breast cancer; 1 had a meningioma, and a couple of twins showed MS.10 patients failed to return. 5 remain in diagnostic doubt. 6 died directly because of MS, 1 suicide, all of them with progressive forms with more than 5 years of evolution. All disease-modifying drugs available were used. More detail results in poster or presentation.
Conclusion: MS was not a rare disease within PEMEX's medical system; early diagnosis and treatment were directly associated to better outcomes. Since this is a closed population, it is relatively easy to follow. We intend to study the MS behaviour as a model of the disease in Mexico, aiming to improve MS patients care through the comparison of data from other epidemiological sources in Mexico and Latin America, with the data generated through this and subsequent studies. With IRB approval.

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1028
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Sera from CIDP patients disrupt blood-nerve barrier via activation of rho-kinase pathway

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Objective: In our recent *in vitro* study, sera from chronic inflammatory demyelinating polyneuropathy (CIDP) patients were shown to possess effects to disrupt blood-nerve barrier (BNB). We studied the molecular background of BNB damage in CIDP using patients' sera and cultured microvascular endothelial cells derived from human peripheral nerve (PnMECs).
Methods: We have obtained patient and Institutional Review Board (IRB) approval, as necessary. We evaluated the effects of sera obtained from patients with CIDP on the expression levels of tight junction proteins, intercellular cell adhesion molecule-1 (ICAM-1), actin stress fiber formation and transendothelial electrical resistance (TEER) value in the PnMECs. We then investigated the influence of the CIDP sera on PnMECs in the presence of specific rho-kinase inhibitor (Y-27632) in order to determine whether rho-kinase pathway is involved in BNB alterations induced by patients' sera.