Shunt infections are one of the most serious and costly complications. We searched Medline, Embase, Scielo and LilACS using key words “multiple sclerosis” and “esclerosis múltiple”, plus “Latin America” and all country names. Accepted were full articles containing original research in any language at any time, with MS diagnosed using the diagnostic criteria of the World Federation of Neurology. Results: Of 1482 articles identified and 262 reviewed, 88 were rejected and 115 were analysed (38 prevalence, 3 incidence, 2 both, 27 clinical epidemiology). The 15% of 115 full text articles were reported in 15% of 18 countries, mostly larger, more affluent nations (47% Brazil, 15% Argentina, 8% Mexico). Prevalence studies were published in 2009. Shunt incidence rates from 0.6 per 100,000 to 1.09 per 100,000 in Mexican patients aged 52/100,000 in Puerto Rico, with a mean of 13/9.100,000. This range would be classified as low to medium, with 83,000 (C105: 62,000-104,000) prevalent cases in Latin America. Incidences ranged from 0.15/100,000 person-years in Panama to 1.76 in Argentina (mean = 1.32, mean ±1.35), or 7.873-8.365 new cases/year in Latin America. Authors noted increasing prevalence and incidence rates over time. Clinical epidemiology M3 data were obtained from 94 studies; 66% used Poser criteria, 48% McDonald (various versions), and 14% other, from 19,893 patients (72% females). The average age at assessment was 38.2 and 32.2 at date onset with average EDSS of 3.1. The relapsing-remitting form was most prevalent (74% female), followed by secondary progressive (12%) and primary progressive (10%). Conclusions: Rates of prevalence and incidence varied across Latin America in a low to medium range, but are increasing as reviewed in the reported studies. Information is scant with many gaps. More research is needed to provide a basis for decision making and budget allocation.}


**PND16**

**EVERALONE DID NOT INCREASE PROSTATE CANCER RISK OR MORTALITY IN PATIENTS WITH PARKINSON’S DISEASE**

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**Objectives:** The association between Parkinson’s disease (PD) and prostate cancer risk is under discussion. We investigated whether exposure to etanepac increases risk of PCA by comparing PCA incidence and mortality rates in PD patients treated with levodopa and dopa carboxylase inhibitors (DDCs) with or without etanepac as an adjuvant. **Methods:** This was a retrospective population-based register study in Finland. Male PD patients exposed to levodopa and etanepac and patients on levodopa/DDCI without etanepac between 1998 and 2009 were identified from the Finnish Prescription Register. Concomitant treatment with dopamine agonists (DA) and monoamine oxidase inhibitors (MAO-B) inhibitors was allowed. PCA cases and PCA deaths were identified from the Finnish Cancer Register and from the Cause of Death Register. PCA incidence and mortality of PCA were modeled by Cox’s proportional hazards model with adjustments for relevant baseline and time-dependent variables. The robustness of the findings for PCA incidence was evaluated in sensitivity analyses with alternative definitions for exposure and by using a nested case-control study setting with 4-5 individual matched controls for each case, all drawn randomly selected from the cohort.

**Results:** The study cohort consisted of 11,396 male patients. During a mean follow-up time of 4.7 years 359 PCA cases and 89 PCA deaths were observed. Etanepac exposure did not increase the risk of PCA incidence or mortality. Conclusions: No increased risk in PCA incidence or PCA mortality was seen in relation to etanepac use.

**NEUROLOGICAL DISORDERS – Cost Studies**

**PND17**

**THE CLINICAL AND ECONOMIC VALUE OF ANTI-BACTERIAL-IMPREGNATED SHUNT CATHETERS (AISC) IN THE TREATMENT OF HYDROCEPHALUS**

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**Background:** Shunt infections are one of the most serious and costly complications associated with shunt therapy. They can have long-term consequences to the patient and impose significant burden on the family and health care system. **Objectives:** To investigate the clinical and economic value of AISC in the treatment of hydrocephalus. **Methods:** A search of the Embase, PubMed, and NHS EED was performed to identify full studies evaluating the clinical and economic aspects of AISC in patients with hydrocephalus. No language restrictions were applied. **Results:** Twenty-three clinical and 9 economic studies were included for review. The majority of published studies in the treatment of hydrocephalus demonstrated a statistically significant reduction in shunt-associated infections when AISC vs. standard shunt (SS) catheters were used. One meta-analysis of 14 studies that compared patients implanted with AISC vs. SS catheters demonstrated lower infection rates against shunt infection in both pediatric and adult Hydrocephalus patients. The pooled infection rate decreased from 7.0% in the SS catheter group to 3.5% in the AISC group. Economic studies conducted globally reported significant cost savings associated with using AISC. One study in paediatric Hydrocephalus patients found that ongoing management of shunt infections uses a disproportionate amount of hospital expenditure (71% of total management costs; 67.605 per patient) when compared to shunt revision surgery (29% of total costs; €6,720 per patient). Using shunt implant data from the UK Hospital Episode Statistics (HES), procedures and interventions database, we estimated the potential cost savings to the UK Health Care system in 2012-13 was £5.6 million or 62,887 infections. Conclusions: Current clinical evidence has demonstrated AISC reduce infection rates in shunted Hydrocephalus patients. The potential health care savings associated with reduced infection rates are significant.

**PND18**

**BUDGET IMPACT ANALYSIS OF FINGOLIMOD IN RELAPSE-REMITTING MULTIPLE SCLEROSIS**

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**Purpose:** In recent years, fingolimod and natalizumab - though expensive - have brought significant improvements in second-line treatment of Multiple Sclerosis (MS). In Italy, fingolimod was acknowledged in 2011 the therapeutic innovation criterion which exempts the manufacturer from a mandatory discount of 5% on the ex-factory price for a three-year period. Since the innovation period is soon expiring and in order to assess the affordability of this therapy for the National and Regional Healthcare Systems (HSs), we performed a Budget Impact Analysis (BIA) of fingolimod for second-line treatments of secondary progressive multiple sclerosis (SPMS) in the Italian context. **Methods:** A model in MSExcel was built to perform the BIA on five Regions located in the Nord, Centre and South of Italy. Interviews with regional stakeholders (helping physicians, providers of MS care, Payers) were performed to collect the MS care resource consumption in the respective regions. Costs were calculated using regional tariffs for outpatient/inpatient health care services. The time horizon was three years when the timeframe most recently required by Payers and Authorities. **Results:** Preliminary results conducted for Lazio and Sicily show that, in second-line use, the use of fingolimod compared to natalizumab leads to savings of €2,500 per patient in Lazio and €2,700 in Sicily due to lower consumption of health care resources (different drug administration and patient management). The BIA shows that fingolimod can determine savings up to €3.4 million approximately in Lazio and €2.2 million in Sicily. Furthermore, if patients with frequent relapses in first-line were switched to second-line, savings could be even higher: an additional €2.0 million for Lazio and 10.6 million for Sicily in the first year of treatment. **Conclusions:** The present analysis shows that, despite innovation expiry, spending remains sustainable for fingolimod in the Italian and Regional HSs. Analyses on the other Regions must be performed to confirm such results.