est VPA concentrations were also higher when concomitant administered of Biapenem compared to Meropenem. The rate of seizures in Biapenem group and Meropenem group were 29.73% and 35.42% respectively(<0.749). Most physicians discontinued the carbapenems, increased the VPA dose or added other antiepileptic drugs. CONCLUSIONS: The extent of decrease in VPA serum concentrations was greater in patients treated with the 2006 regimens than in patients treated with the 2000 regimens. Biapenem also decreased the VPA blood level as 70% and increased the risk of seizures, concomitant using of these medications should be avoided.

PN3 SYSTEMATIC LITERATURE REVIEW OF TREATMENTS OF CHRONIC CLUSTER HEADACHE

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OBJECTIVES: Chronic cluster headache (CCH) is a type of headache where attacks occur for more than a year without remission. The objective of this study was to identify evidence on the disease and comorbidities burden (epidemiological, economic, humanistic) and on the economic burden, complications, and effectiveness of different treatment approaches. Articles were assessed by two different reviewers, who also extracted data. RESULTS: 29 studies for three different immunoassays were included in the meta-analysis. To obtain a summary estimate for the sensitivity and specificity with 95% confidence interval a bivariate random effect model was used. The approximated sensitivity for the cell based assay, the tissue based assay and the ELISA test were 0.77(CI 95% 0.68-0.84), 0.63(CI 95% 0.54-0.72) and 0.62(CI 95% 0.52-0.72), respectively. The mean specificity for the cell based assay was 0.99 (CI 95% 0.98-0.99), tissue based assay 0.99 (CI 95% 0.97-0.99) and Elisa test 0.97(CI 95% 0.95-0.99). CONCLUSIONS: AQP4 detection in serum with immunoassay is a great tool for the diagnosis of patients with NMO. This is following the clinical disease from other neurological conditions that resemble NMO. Due to differences in test effectiveness, cost-minimization studies would not be appropriate. Since the cost of immunoassays differs, these results will be useful in cost-effectiveness models.

PN6 CLASSIFICATION OF NON-HIV LIPODYSTROPHY IN THE US USING ELECTRONIC MEDICAL RECORD (EMR) DATA AND PHYSICIAN NOTES

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OBJECTIVES: Lipodystrophy syndromes (LD-S) are serious medical conditions characterized by the loss of adipose tissue and have a major impact on quality of life, with risk of insulin resistance, diabetes, dyslipidemia and other systemic diseases. Prevalence and natural history data on LD-S are sparse, derived primarily from anecdotal phy- sician observations and case reports. The objective of this study was to evaluate prevalence, natural history and disease burden of LD-S. METHODS: A unique retrospective cohort study of real-world EMR data along with expert review of text strings available in physician notes was conducted to classify and compare patients with the ICD-9-CM diagnosis of LD-S. RESULTS: Out of 1,297,085(76.9%) patients with a genetic or acquired, generalized or partial, localized, or unable to classify). Data were captured from a large national network of US providers from 2000-2014, and limited to patients with no evidence of HIV. RESULTS: 1,637 patients with an ICD-9-CM diagnosis indicating LD-S and no evidence of HIV were identified. Upon detailed review of physician notes, 49 patients (3%) were classified as congenital generalized or partial, 227 (14%) as localized LD-S and the remainder (83%) were unable to be categorized due to non-specific or missing notes. Among these subgroups, 71%, 74% and 23% had high triglycerides (>200 mg/dL); 69%, 30%, and 26% had Type 2 diabetes; and 8%, 30%, and 12% had Type 1 diabetes, respectively. In the localized and unclassified groups, treatment by dermatologists and plastic surgeons was more common (18-30 versus 0%), and patients were more likely obese (18-21 versus 16%). CONCLUSIONS: Over 80% of patients with an ICD-9-CM diagnosis indicating LD-S could not be classified due to non-specificity of coding. Given the current lack of standardization of the diagnosis and treatment, it will be necessary to understand the true prevalence and natural history of LD-S utilizing EMR without an effort to standardize coding and documentation of LD-S.

PN7 TOTAL MIGRAINE FREQUENCY FOR BREATH POWERED INTRANASAL DELIVERY OF SUMatriptan AND Placebo (PND7-825) Versus 45 mg Intranasal SUMatriptan from the COMPASS trial of acute treatment of Migraine

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OBJECTIVES: Migraine-associated symptoms—nausea, photophobia and/or phonophobia—can contribute to disability and direct healthcare costs. The com- posite efficacy endpoint, total migraine freedom (TMF), is more rigorous than other pain endpoints and assesses pain freedom and absence of migraine-asso- ciated symptoms, providing a more comprehensive understanding of treatment impact than evaluation of items individually. TMF was assessed for AVP-825, an investigational Breath Powered intranasal delivery system containing 22mg sumatriptan powder, vs 100mg oral sumatriptan (oral-SUM) in the COMPASS study (NCT01667679). METHODS: Multicenter, double-dummy, crossover, multi-attack study with 2-week double-blind periods. Patients (2-8 attacks/month) were randomized to AVP-825 plus oral placebo or an identical placebo delivery system (NCT01667679). RESULTS: Of 825 patients treated <5 qualifying migraines/period (<1 hour from onset, even if mild). Percentage of attacks with TMF (pain freedom and absence of migraine-associated symptoms, including vomiting) at timepoints from 10 minutes–2 hours post-dose was calculated post hoc and analyzed by chi-square test. RESULTS: 185 patients treated migraines in both treatment cycles, yielding 1531 migraine attacks (104 patients) treated with AVP-825, 765 (76% AVP-825, 235 (24%) Placebo). The percentage of attacks with TMF was significantly greater with AVP-825 vs oral-SUM at all timepoints from 15-90 minutes: 15 minutes (7.2% vs 3.7%; P<0.01), 30 minutes (10.8% vs 8.0%; P<0.01), 45 minutes (30.7% vs 21.4%; P<0.01), 60 minutes (40.9% vs 33.3%; P<0.01), 90 minutes (52.7% vs 45.6%; P<0.01). At 2 hours, TMF rates did not differ significantly between treatments (60.6% for AVP-825 vs 56.7% oral-SUM; P=1). CONCLUSIONS: AVP-825 (22mg sumatriptan) treatment of acute migraine results in significantly higher rates of TMF compared to placebo at all timepoints more than the maximum dose (100mg) of oral-SUM, despite delivering much less drug. These results demonstrate the superiority of AVP-825 using the most rigorous efficacy endpoint in migraine and are consistent with the other outcomes of COMPASS, indicating AVP-825 has superior early efficacy compared to oral-SUM.