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 non-diagnostic cases treated patients than in confirmed
treated cases. But Biapenem also decreased the VPA blood level as 70% and
increased the risk of seizures, concomitant using of these medications should be
avoided.

PND3
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 (a)
on the disease and comorbidities burden (epidemiological, economic, humanistic) and (b) on the economic burden, complications and effi-
cacy of treatment. Treating this important condition is recommended by the European Federation of the Neurological
Societies (EENS) guidelines. METHODS: Medline, Embase, Cochrane Library and NHS EED were searched using a predefined search strategy and selection criteria to retrieve publications on CCH in English language from 2000 onwards. RESULTS: In total, 10 studies were retrieved reporting data on disease burden and comorbidities of CCH. Of them, four reported humanistic burden, three reported comorbidities, two epidemiological outcomes and one study published economic data. Seven studies reported cost of illness and the risk of adverse events. Risk estimates were calculated as odd
ratios (OR). This systematic review included 29 studies for three different outcomes and one study published economic data. Seven
inclusion criteria were used according to the Cochrane Handbook. Two different reviewers, who also extracted data.
RESULTS: 29 studies for three different immunoassays were included in the meta-analysis. To obtain a sum-
mary statistic 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. It allows follow the clinical course of this 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.

PND4
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 char-
acterized by selective adipose tissue loss and are associated with hyperglycemia,
insulin resistance, diabetes, dyslipidemia and other systemic diseases. Prevalence
and natural history data on LD-S are sparse, derived primarily from anecdotal phy-
cian reports and case reports. This study explored the usefulness of EMRs for
evaluating 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 2006 or the 2012 Wingerchuk diagnostic criteria. Articles were assessed by two different reviewers, who also extracted data.
RESULTS: 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, it will be important to understand the true prevalence and natural history of LD-S utilizing EMR without an effort to standardize coding and documentation of LD-S.

PND7
TOTAL MIGRAINE FREEDOM FOR BREATH POWERED INTRANASAL DELIVERY OF SUMATRIPTAN (ASD) VERSUS 25MG SUMATRIPTAN POWDER FROM THE COMPASS STUDY OF ACUTE TREATMENT OF MIGRAINE

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OBJECTIVES: Migraine-associated symptoms—nausea, photophobia and/or pho-
nophobia—can contribute to disability and direct healthcare costs. The com-
pose efficacy endpoint, total migraine freedom (TMF), is more rigorous than
other pain endpoints and assesses pain freedom and absence of migraine-associa-
ted symptoms, providing a more comprehensive understanding of impact treatment
than evaluation of items individually. TMF was assessed in AVP-825, an investigational Breath Powered intranasal delivery system containing 22mg
sumatriptan powder, vs 100mg oral sumatriptan (oral-SUM) in the COMPASS study (NCT01667679).
RESULTS: A post hoc analysis was conducted to compare patients who achieved
the superiority of AVP-825 using the most rigorous efficacy endpoint in migraine
(0.749). Most
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 stand-
ards for the diagnosis, this study is the first to report the prevalence and natural history
of LD-S utilizing EMR without an effort to standardize coding and documentation of LD-S.

PND7
SPECIFICITY AND SENSITIVITY OF AQUAPORIN 4 ANTIBODY DETECTION TESTS IN PATIENTS WITH NEUROMYELITIS OPTICA (NMO) DETECTION

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OBJECTIVES: Antibodies against water channel protein aquaporin 4 (AQP4) in astrocytes play a role in the etiology and physiopathology of neuromyelitis optica (NMO), detection of this immunoglobulin in serum is highly suggestive of this diagnosis. There are several immunoassays that detect the antibody with different
sensitivities and specificities. We conducted a meta-analysis to determine
the overall diagnostic accuracy from these tests. METHODS: We conducted a systematic review in five different electronic databases: PubMed, Embase, The
Cochrane Library, Database of Abstracts of Reviews of Effect (DARE) and Lilacs. We included both case control and consecutive enrollment studies that eval-
uated the performance of the immunoassays in patients with suspected NMO in comparison with the 2006 Wingerchuk diagnostic criteria. 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 sum-
mary statistic 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. It allows follow the clinical course of this 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.

PND6
RISK OF CARDIOVASCULAR EVENTS ASSOCIATED WITH NECESSARY INTERVENTIONS FOR PARKINSON DISEASE

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OBJECTIVES: Despite well-known benefits of pharmacotherapy to treat Parkinson
disease (PD), conventional interventions may increase an individual's risk of
several adverse events and are consistent with the high burden of CCH. Of them, four reported humanistic burden, three reported comorbidities, two epidemiological outcomes and one study published economic data. Seven
inclusion criteria were used according to the Cochrane Handbook. Two different reviewers, who also extracted data.
RESULTS: In total, 10 studies were retrieved reporting data on disease burden and comorbidities of CCH. Of them, four reported humanistic burden, three reported comorbidities, two epidemiological outcomes and one study published economic data. Seven
inclusion criteria were used according to the Cochrane Handbook. Two different reviewers, who also extracted data.
RESULTS: In total, 10 studies were retrieved reporting data on disease burden and comorbidities of CCH. Of them, four reported humanistic burden, three reported comorbidities, two epidemiological outcomes and one study published economic data. Seven
inclusion criteria were used according to the Cochrane Handbook. Two different reviewers, who also extracted data.
RESULTS: In total, 10 studies were retrieved reporting data on disease burden and comorbidities of CCH. Of them, four reported humanistic burden, three reported comorbidities, two epidemiological outcomes and one study published economic data. Seven
inclusion criteria were used according to the Cochrane Handbook. Two different reviewers, who also extracted data.