the effect of meteorological factors on the onset of bell's palsy is minimal.

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**656**
**WFN15-0641**
**Miscellaneous Topics 2**
**Does cognitive decline in Parkinson's disease start before diagnosis? A population-based study**

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**Objective**: New concepts propose that Parkinson's disease (PD) starts decades before motor signs (pre-motorPD) with non-motor symptoms such as REM sleep behaviour disorder, hyposmia, constipation etc. It is accepted that 20-30% of newly diagnosed PD subjects have some cognitive decline but it is not known if it starts before diagnosis. Thanks to the very long-term follow-up study of the population based PAQUID study, we challenged the occurrence of cognitive symptoms over a 14-year period before the diagnosis of PD.
**Methods**: This is a case-control study nested in the PAQUID cohort. Of the 3,777 initial subjects of the cohort, 43 have developed a PD during the 14 years of follow-up. These cases were matched to 86 elderly control subjects. The evolution of scores on cognitive, functional, and depression scales was described throughout the 14-year follow-up using a semiparametric extension of the mixed-effects linear model.
**Results**: We have not found significant cognitive decline or emergence of depressive symptoms in future PD subjects before clinical diagnosis compared with controls. Only psychomotor speed was found to significantly decrease 4 years before PD diagnosis. Also, there was no difference in the impact on daily activities, except in using public transportation two years before diagnosis of PD.
**Interpretation**: This study shows that slowed psychomotor speed occurs 4 years before motor diagnosis while other cognitive functions seemed preserved until diagnosis. We could not confirm pre-motor depression in PD. Limits of our study are that of the test used and subject numbers.

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**657**
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**Miscellaneous Topics 2**
**Combined screening for lysosomal and peroxisomal disorders by Flow Injection Liquid Chromatography Mass Spectrometry (FIA-MS/MS) in Dried Blood Spots (DBS)**

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**Background and objectives**: Lysosomal and peroxisomal disorders are likely underdiagnosed in the adult population as shown by higher than expected prevalence of later onset disease variants found by newborn screening programs/pilot studies. We developed a rapid new method for the simultaneous analysis of six lysosomal enzymes and lysophosphatidylcholines (LPC) in dried blood spots (DBS) for screening at risk patients.
**Method**: DBS are extracted in buffer for enzyme activity determinations (after overnight incubation) and methanol for LPC analysis. Using FIA-MS/MS, concentrations of LPC (C26:0, C24:0, C22:0, C20:0) and reaction products of acid sphingomyelinase (ASM), β-glucocerebrosidase (ABG), α-glucosidase (GAA), α-galactosidase (GLA), galactocerebrosidase (GALC) and α-L-iduronidase (IDUA) are measured. Total FIA-MS/MS run time is 1 minute/sample.
**Results**: Specimens from subjects with MPS I (N = 5), Gaucher disease (N = 5), Nieman-Pick A/B (N = 2), Pompe disease (N = 5), Krabbe disease (N = 5), Fabry disease (N = 11), ALD (N = 8), heterozygous ALD (N = 5) and peroxisomal biogenesis disorders (N = 5) were correctly identified by the simultaneous analysis of the enzyme activities as well as C20 to C26 LPC concentrations in DBS by FIA-MS/MS.
**Conclusions**: This method is a rapid, effective and high-throughput screening assay for six lysosomal diseases, and peroxisomal disorders using FIA-MS/MS.

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**658**
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**Miscellaneous Topics 2**
**Epidemiologic investigation of amyotrophic lateral sclerosis in Trakya, Turkey, 2006-2010**

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**Background**: There are no reports about the incidence and the prevalence of Amyotrophic Lateral Sclerosis (ALS) from Turkey.
**Objective**: The aim of the study was to estimate the incidence and prevalence of ALS in Trakya region of Turkey.
**Material and methods**: The ALS cases diagnosed between 2006 and 2010 were identified to study. The study used the El Escorial criteria for ALS diagnosis. Definite ALS patients included to study. We have obtained Institutional Review Board (IRB) approval.
**Results**: Between January 1, 2006 and December 31, 2010 we identified 87 patients (54 males, 33 females) with a new diagnosis of ALS. The mean age of diagnosis was 57.4+11.7. Ten cases were ALS with bulbar onset, 68 cases were ALS with spinal onset. The average annual incidence of ALS in the entire study was 3.95 per 100 000. On December 31, 2010, the ALS prevalence was 13.00 per 100,000. Five years fatality rate was 25.2%, and five years mortality rate was 4.67 per 100 000.
**Conclusion**: This is the first report on the prevalence and the incidence of ALS in a representative population of Turkey. Our incidence and prevalence rates were higher than the studies were conducted other countries. This result may be explained by an interaction with environmental factors.
**Keywords**: Amyotrophic Lateral Sclerosis, incidence, prevalance

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**Miscellaneous Topics 2**
**Photo-stimulating effect of low reactive level laser on lower urinary tract dysfunction in Parkinson disease model**

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