Dopamine agonists such as pramipexole and piribedil on patients with early Parkinson’s disease (PD). METHODS: Basic treatment of 40 early PD patients included amantadine and anticholinergics at least within one year. Pramipexole (mean dose: 2.4 ± 1.1 mg) was added to basic treatment of 18 patients within one year, and Piribedil (mean dose: 168.2 ± 24.6 mg) was added to treatment of 22 patients within one year as well. To evaluate quality of life, we included the 39-item Parkinson’s Disease Questionnaire (PDQ-39) at baseline, one-year after basic treatment and one-year after treatment by dopamine agonists. Utility was measured by percentage reduction of PDQ-39 and changes of summary index. We carried out the cost-utility analysis and calculated QALY for both agonists. Only direct costs were estimated. RESULTS: Quality of life, characterized by summary index of PDQ-39, changed compared with basic treatment from 0.516 (range 0–1) up to 0.717 for Pramipexole group (mean percent PDQ-39 score reduction was 20.1%). For the Piribedil group, summary index of PDQ-39 changed compared with basic treatment from 0.618 up to 0.725 (mean percent PDQ-39 score reduction was 10.7%). For the Pramipexole group, mean cost of basic treatment was $13.42 compared to $1544.29 of Pramipexole treatment. For the Piribedil group, mean cost of basic treatment was $8.16 compared to $506.96 of Piribedil treatment. Cost-utility for the Pramipexole group was $76.83 per 1% PDQ-39 score reduction and 47.38$ per 1% PDQ-39 score reduction for the Piribedil group. For early PD patients treated by Pramipexole, QALY costs $1263.35 and $383.56 for patients treated with Piribedil QALY. CONCLUSIONS: For early PD patients, use of Piribedil is more cost-utility than use of Pramipexole. QALY for Piribedil treatment costs much less than Pramipexol treatment.

NEUROLOGICAL DISORDERS—Parkinson’s Disease

PNL22
COST-EFFECTIVENESS OF PRAMIPEXOLE COMPARED WITH PIRIBEDIL IN EARLY PARKINSON’S DISEASE PATIENTS
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OBJECTIVES: To estimate the cost-effectiveness of dopamine agonists such as pramipexole and piribedil on patients with early Parkinson’s disease (PD). METHODS: Dopamine agonists have been added to treatment of 40 early PD patients that received amantadine and anticholinergics. A total of 18 patients (mean age: 58.3 ± 7.7 years, mean duration of disease: 2.6 ± 1.1 years) received pramipexole (mean dose: 2.4 ± 1.1 mg) within one year and 22 patients (mean age: 60.4 ± 5.6 years, mean duration of disease: 3.2 ± 2.2 years) received piribedil (mean dose: 168.2 ± 24.6 mg) within one year also. Clinical efficacy was measured by percentage reduction of Unified Parkinson Disease Rating Scale (UPDRS). Only direct costs were estimated. Cost-effectiveness ratio was defined for both agonists. RESULTS: After one year of treatment by dopamine agonists, 40 early PD patients had demonstrated significant (p < 0.01) clinical improvement. Mean percent UPDRS score reduction from basic treatment was 12.2% in the pramipexole group of patients and 8.9% in the piribedil group of patients. Patients had no adverse effects which could lead to increase in cost of treatment. The mean cost for one-year treatment of pramipexole was $1544.29 compared to $506.96 of piribedil treatment. Cost-effectiveness ratio for pramipexole group was $126.58 per 1% UPDRS score reduction, and $36.96 per 1% UPDRS score reduction for the piribedil group. CONCLUSIONS: Treatment of early PD patients by dopamine agonists such as pramipexol and piribedil resulted in significant clinical improvement. At the same time, use of piribedil is more cost-effective than use of pramipexole for early PD patients.

PNL23
COST-UTILITY ANALYSIS FOR EARLY PATIENTS WITH PARKINSON’S DISEASE TREATED BY DOPAMINE AGONISTS
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OBJECTIVES: To perform cost-utility analysis and calculated Quality Adjusted Life Years (QALY) for dopamine agonists such as Pramipexole and Piribedil on patients with early Parkinson’s disease (PD). METHODS: Basic treatment of 40 early PD patients included amantadine and anticholinergics at least within one year. Pramipexole (mean dose: 2.4 ± 1.1 mg) was added to basic treatment of 18 patients within one year, and Piribedil (mean dose: 168.2 ± 24.6 mg) was added to treatment of 22 patients within one year as well. To evaluate quality of life, we included the 39-item Parkinson’s Disease Questionnaire (PDQ-39) at baseline, one-year after basic treatment and one-year after treatment by dopamine agonists. Utility was measured by percentage reduction of PDQ-39 and changes of summary index. We carried out the cost-utility analysis and calculated QALY for both agonists. Only direct costs were estimated. RESULTS: Quality of life, characterized by summary index of PDQ-39, changed compared with basic treatment from 0.516 (range 0–1) up to 0.717 for Pramipexole group (mean percent PDQ-39 score reduction was 20.1%). For the Piribedil group, summary index of PDQ-39 changed compared with basic treatment from 0.618 up to 0.725 (mean percent PDQ-39 score reduction was 10.7%). For the Pramipexole group, mean cost of basic treatment was $13.42 compared to $1544.29 of Pramipexole treatment. For the Piribedil group, mean cost of basic treatment was $8.16 compared to $506.96 of Piribedil treatment. Cost-utility for the Pramipexole group was $76.83 per 1% PDQ-39 score reduction and 47.38$ per 1% PDQ-39 score reduction for the Piribedil group. For early PD patients treated by Pramipexole, QALY costs $1263.35 and $383.56 for patients treated with Piribedil QALY. CONCLUSIONS: For early PD patients, use of Piribedil is more cost-utility than use of Pramipexole. QALY for Piribedil treatment costs much less than Pramipexol treatment.

PNL24
PATTERNS OF RESOURCE USE IN PATIENTS WITH DIFFERENT SEVERITIES OF PARKINSON’S DISEASE
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OBJECTIVE: Parkinson’s Disease (PD) is a neurodegenerative condition, with increasing resource use consequences as patients progress. The purpose of this study was to investigate differences in resource use for patients in different stages of PD. METHODS: Data are drawn from a large cross-sectional observational study of patients receiving treatment for PD. A panel of neurologists were asked to include the next ten patients consulting with PD during a specified time period. Information collected includes behavioural and attitudinal patient management and resource use data. RESULTS: The study included 4234 patients treated by 428 doctors in the US and five European countries. Disease state was measured by Hoehn and Yahr (HY) scale, ranging from one (mild unilateral tremor, some rigidity, minimal bradykinesia) to four (severe disability) and five (complete immobility). Patients with HY score four and five were grouped due to small numbers with HY five. There were no significant differences in HY distribution between the EU and US. Likelihood of hospitalisation and admission for respite care is much greater in Europe than the US (24.0% vs. 6.7%; p < 0.01 and 4.7% vs. 0.6%; p < 0.01). Hospital stay was also greater in EU (16.3 vs. 6.7 days; p < 0.01). Likelihood of both hospitalisation and respite care correlated with worsening HY score. Drug use patterns were similar in EU and US. Patients with HY score four and five took more drugs than patients with HY one (mean number 2.15 vs. 1.15; p < 0.01). Likelihood of combination therapy (particularly with levodopa) increased with worsening HY score; at HY 4/5 levodopa therapy is much more common than at HY1 (86% vs. 35%; p < 0.01). CONCLU-
COST AND USE OF PARKINSONISM-INDUCING DRUGS AMONG MEDICARE BENEFICIARIES
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OBJECTIVES: Drug-induced parkinsonism (DIP) is an akinetorigid syndrome induced by pharmacologic agents that can be difficult to distinguished from idiopathic Parkinson’s disease (PD). The medications potentially inducing parkinsonism include neuroleptic drugs, non-neuroleptic drugs, selective serotonin reuptake inhibitors (SSRI), and catecholamine-depleting agents (CDA). Here we examine the use of parkinsonism-inducing drugs among Medicare beneficiaries and estimate the economic burden of DIP. METHODS: We used the community-dwelling population of 1992–2000 Medicare Current Beneficiary Survey (MCBS) participants (97,999 subject-years). Bivariate comparisons were used to determine differences in the use of PD-inducing drugs between the beneficiaries with and without PD. Using multivariate model, we estimated the effect of PD-inducing drug use on the total medical expenditures. RESULTS: Among all MCBS beneficiaries, 1.63% reported having PD, 8.31% used PD-inducing drugs, and 0.93% used both anti-PD and PD-inducing drugs in a given year. Neuroleptic drugs were the most commonly used drugs inducing PD (53.82%), followed by the SSRI (41.45%), non-neuroleptic drugs (15.27%), and CDA (2.23%). More people with self-reported PD used PD-inducing drugs than people without PD (14.11% vs. 8.21%, p < 0.001). Among beneficiaries using both anti-PD and DIP drugs, 65.63% used neuroleptic medications (83.21% for people not taking anti-PD medications, p < 0.001), 30.00% used non-neuroleptic drugs (13.28%, p < 0.001), and 35.16% used SSRI (18.59%, p < 0.001). After adjusting for personal characteristics and comorbidities, the total annual medical costs were significantly higher in PD patients with psychiatric problems who were using neuroleptic drugs compared to other beneficiaries with psychiatric problems ($12109 vs. $10032, p < 0.001). CONCLUSIONS: More patients with self-reported PD are taking medications known to potentially cause DIP compared to Medicare beneficiaries without PD. The neuroleptic medications are the most common PD-inducing drugs among elderly. Although more research is needed, it is likely that DIP medications are contributing to the economic and health burden of parkinsonism in Medicare beneficiaries.

TREATMENT SATISFACTION AND PRINCIPAL CAUSES OF TERMINATION OF DRUG TREATMENT OF PARKINSON’S DISEASE IN RUSSIA
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OBJECTIVES: To establish and analyse treatment satisfaction and principal causes which result in termination of drug treatment of Parkinson’s Disease (PD) in Russia. METHODS: The retrospective analysis was carried out for treatment which patients received. In the analysis, 241 patients with PD (male: 127, female: 114; mean age: 66.1 ± 7.5 years, duration of disease: 5.2 ± 3.2 years) have been included. RESULTS: Majority of patients received two or three drugs; 160 patients accepted levodopa (mean dose: 612.0 ± 327.7mg daily); 105 patients accepted anticholinergics such as trihexyphenidyl (mean dose: 5.0 ± 2.0mg); 83 patients accepted amantadine (mean dose: 253.9 ± 72.1mg); 41 patients accepted dopamine agonist such as pramipexole (mean dose: 2.4 ± 1.0mg); and 35 patients accepted selegiline (mean dose: 9.1 ± 3.2mg). Adverse events resulted in termination of treatment more often for anticholinergics (n = 32), less often for levodopa (n = 8), amantadine (n = 5) and pramipexole (n = 4). Insufficient efficacy was the most often cause of end in treatment by trihexyphenidyl (n = 21), selegiline (n = 17), amantadine (n = 15), and rare reason of end of treatment by levodopa (n = 3), pramipexole (n = 2). High cost of drugs was the most often reason of pramipexole (n = 27) cancellation and only one case led to cancellation of levodopa. In other cases, patients were satisfied with the treatment. In Russia, mean daily dose of levodopa costs about US$0.9, pramipexole—US$3.96, selegiline—US$0.88, amantadine—US$0.05 and trihexyphenidyl—US$0.02. CONCLUSIONS: Principal causes of the termination of drug treatment of PD were adverse events, insufficient efficiency, and high cost. Reduction of cost of treatment of dopamine agonists such as pramipexole could lead to increase in number of PD patients who would continue to get treated in Russia.

PREVALENCE OF INSOMNIA AMONG PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN A LARGE DATABASE
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OBJECTIVES: This retrospective study quantifies the prevalence of insomnia among patients with chronic obstructive pulmonary disease (COPD) from a large outpatient database. COPD is an umbrella term for the lung disease category associated with airflow obstruction, which includes emphysema, chronic bronchitis, and chronic asthma, either alone or in combination. METHODS: Data from April, 1996 to September, 2003 on patients with a diagnosis of COPD (ICD-9 codes 491.2, 492.0, 492.8, 493.2, and 496) were extracted from the GE Medical Systems database—a large, outpatient, multipractice electronic database system with input from over 2000 practicing physicians in 26 US states. The insomnia cohort was defined as patients having either a diagnosis consistent with insomnia (ICD-9 codes 307.4x [x = 1–2, 9] and 708.5x [x = 0, 2]) or a prescription for insomnia medication. Demographic characteristics, comorbid conditions, and concomitant medications were evaluated. RESULTS: A total of 3,777 (21.4%) of 27,052 patients in the COPD cohort were identified as having a diagnosis and/or being treated for insomnia, compared with 7.2% of the non-COPD patients. CONCLUSIONS: This exploratory analysis revealed that patients with COPD in this large outpatient database were diagnosed with and/or treated for insomnia almost three times as frequently as those patients not having a diagnosis of COPD. These data suggest that insomnia is a common and clinically important comorbidity associated with COPD. The nature of this association should be further investigated with a well-designed prospective study, and treatments for insomnia related to COPD need to be examined in greater detail.

THE PREVALENCE OF INSOMNIA IN PATIENTS WITH DRUG DEPENDENCY OR ABUSE
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Abstracts