INTRODUCTION

• Impulse Control Disorders (ICDs) including compulsive gambling, buying, sexual behavior and eating show larger occurrence in Parkinson's disease population in comparison to normal subjects, with a well established association with PD drugs.

• Previous studies demonstrated that ICDs are equally common in newly diagnosed, untreated PD patients and in normal population (approximately 20%). This finding supports the hypothesis that IC develop because of antiparkinsonian drug use but do not rule out the hypothesis that specific personality characteristics, interacting with drug use, may be necessary in order to develop IC.

Moreover, psychiatric patients with substance addiction or impulse control disorders present specific personality characteristics that differ from control subjects, thus is plausible to hypothesize that specific personality aspects, different from normal PD population, may cause ICD development in some PD pts but not in all the population, although treated with the same dopaminergic medications.

AIM OF OUR STUDY WAS
to evaluate personality traits by means of Minnesota Multiphasic Personality Inventory-2 (MMPI-2) of a population of PD pts affected by Pathological gambling in comparison with a group of PD pts, matched for clinical, pharmacological history and demographic characteristics, not affected by impulse control disorders.

SUBJECTS

Fifty-eight to 58 patients affected by idiopathic PD according with the Brain Bank Criteria were enrolled for the present study.

Thirty-seven of them had a personal history of Pathological gambling (PG) resolved at the time of the inclusion from at least six months, by changing dopaminergic medications.

The remaining 21 PD patients had never experienced ICDs (no PG) as personally stated or as reported by caregivers although they were matched for dopaminergic therapy history.

Inclusion criteria were: adequate educational level (> 8 yrs of scholarship); no history of dementia (MMS<28/30); stable dopaminergic medications for at least six months before evaluation, no use of antidepressant or antipsychotic medications.

METHODS AND STATISTICAL ANALYSIS

All subjects were asked to fill the MMPI-2 questionnaires. It is one of the most commonly used assessment tools in mental health to evaluate personality characteristics, consisting in 567 true/false questions that assess a broad range of self-reported psychopathology. It consists of three validity scales 10 clinical scales with the related sub-scales, and 14 content scales. All pts were tested in the morning under their usual dopaminergic drugs in on state.

In general, standard scores on all the scales in the range from 45-55 are within normal limits and indicate that the individual shows an effective emotionality and responds to stress without crippling neurotic defenses or psychiatric décompensation. As the standard scores increase and approach above 70, the individual is usually found to have an emotional disorder. The nature of the disorder is predicted by the profile or pattern of the elevated scores.

Results obtained by MMPI-2 for the two PD groups (PD with PG and PD without PG), were compared with Mann Whitney test. Bonferroni correction was applied.

RESULTS

1. Among the 37 PD with Gambling, 17 were excluded from principal analysis because of the three validity scales score, demonstrating they were lying.

Moreover, the remaining 20 PD patients with a personal history of PG, showed a significantly (p<0.02) higher value K scale (one of the validity scales), although pathological mean values were not observed in none of the three validity scales.

Concerning the clinical scales no significant differences were obtained between the two groups when comparing the different variables. However, pathological values were obtained by the PG PD group at the Depression scale (65.9 ± 9.4), and by the Non PG group at the hypochondria scale (68.1 ± 10.5).

Concerning the content scales a significant difference between the two groups was observed concerning anxiety scale (p=0.04), bizarre ideation scale (p=0.02), cynicism scale (p=0.02), social discomfort scale (p=0.005). However after Bonferroni correction only cynicism and bizarre ideation remained significantly different between the two groups. Moreover, a trend to differ, although not significantly was reported at the scale for depression (p=0.06). Notably, no pathological scores were reached by the two groups.

RESULTS 2

Re-analysing results obtained in the 17 PD with PG we initially didn’t consider because "liars", when comparing their profiles with no PG PD, we observe no significant differences concerning clinical scales, while, across content scales they differ regarding bizarre ideation (p=0.001), cynicism (p=0.001), social discomfort (p=0.01) anxiety (p=0.001), depression (p=0.001) fear (p=0.01) and obsession (p=0.001) as PG not liar PD differ from non PG PD.

CONCLUSION

In conclusion, our findings support the hypothesis that IC develop not only because of antiparkinsonian drug use, but specific personality characteristics, interacting with drug use, may be necessary.

In particular personality profiles we identified as characteristic of PG PD remind cluster A personality disturbances -Axis 2 according with DSM-4 TR (paranoid type). Moreover a relevant finding is that a large portion of gambling positive PD patients has a tendency to lay an high score to K index may be considered as a risk factor for developing gambling.

Thus, in the clinical practice may be useful test personality characteristics by means of MMPI before treating our PD patients with dopamine agonist, to detect in advance a possible tendency to develop ICs, on the basis of specific personality traits.