

Comparing Clinical Features of Young-Onset, Middle-Onset and Late-Onset Parkinson's Disease

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Objectives: To assess the initial symptoms and treatments of patients with young-onset Parkinson's disease (YOPD), middle-onset Parkinson's disease (MOPD) and late-onset Parkinson's disease (LOPD).

Background: The etiology of idiopathic Parkinson's disease (PD) remains unknown. There is evidence that the clinical features of YOPD, MOPD and LOPD are different, but published information is scarce. Further understanding of the characteristics of these three groups may help elucidate the significance of the differences.

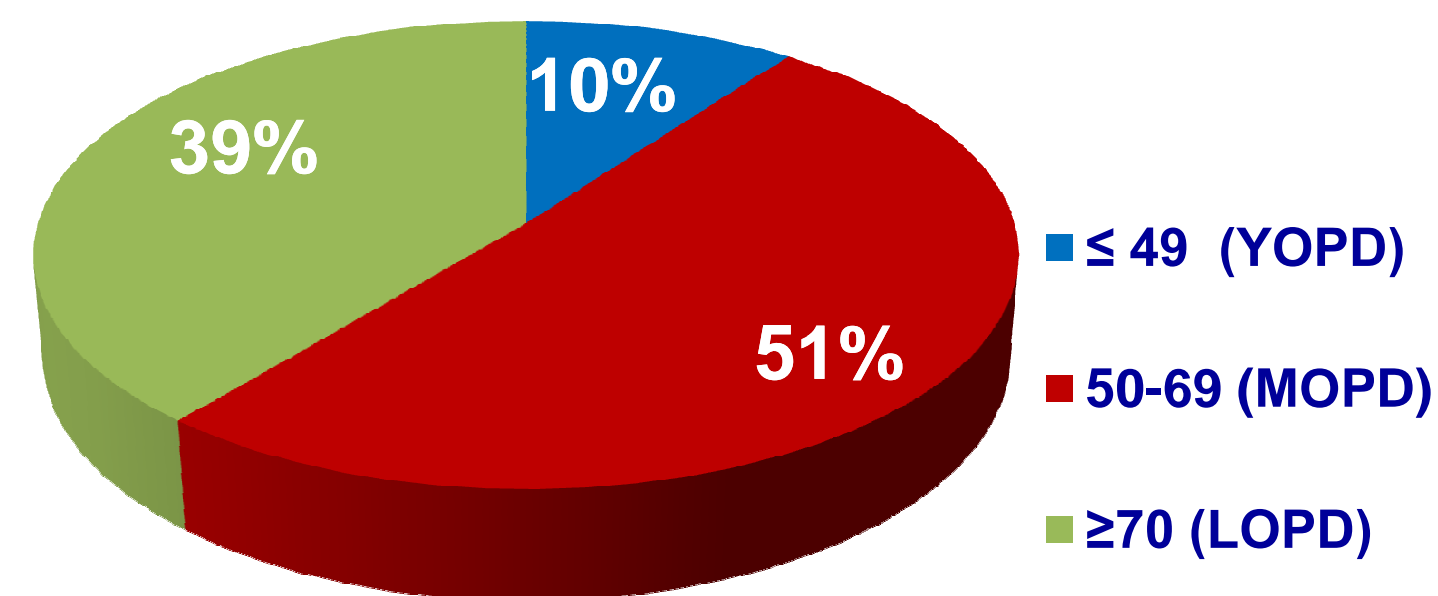
Methods: This is a retrospective chart review of 729 patients seen at our Center between 2002 and 2010 with the diagnosis of parkinsonism. Patients were divided into early onset (≤ 49 years), middle onset (50 to 69 years) and late onset (≥ 70 years) PD. Their clinical variables were compared using Chi-square.

Results: 593 patients met the inclusion criteria of idiopathic Parkinson's disease and known age of onset.

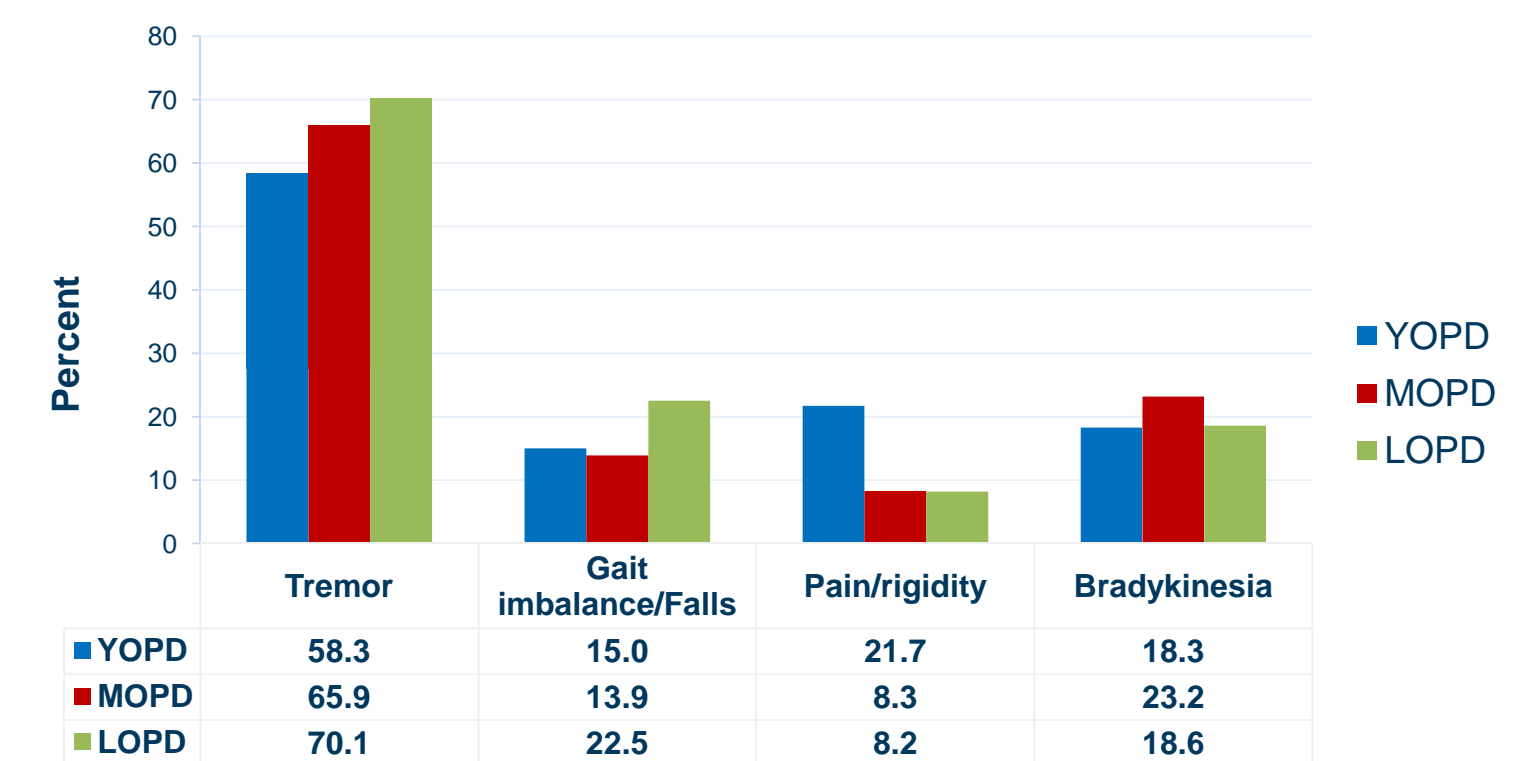
Initial symptoms: Rigidity and pain as the predominant initial symptoms were more frequent in the younger group (21.7% v/s 8.3% in MOPD and 8.2% in LOPD, $p=0.004$) while gait instability as the predominant initial symptoms was more frequent in the older group (22.5% v/s 13.9% in MOPD and 15% YOPD, $p=0.03$). There was no difference in the frequency of tremor or bradykinesia as predominant initial symptom between the 3 groups, but tremor was the most frequent predominant initial symptom in all groups.

Initial medication: Carbidopa/levodopa was the most frequently prescribed first medication in the three groups, but was significantly more prescribed in the older group (68% v/s 50.7 in MOPD and 51.7% in YOPD, $p<0.001$).

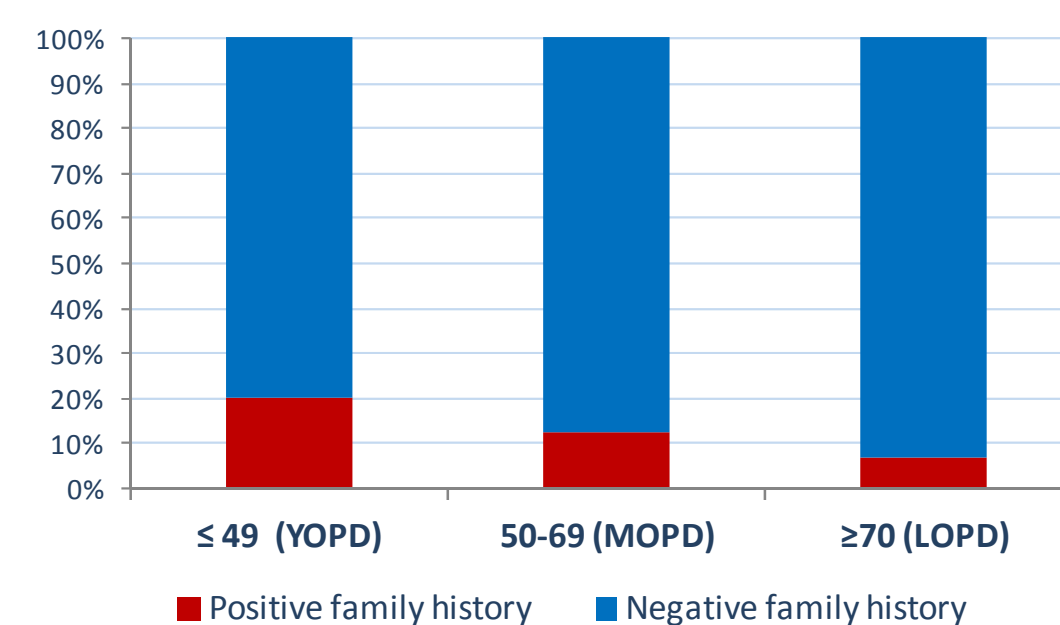
Distribution by age of onset groups



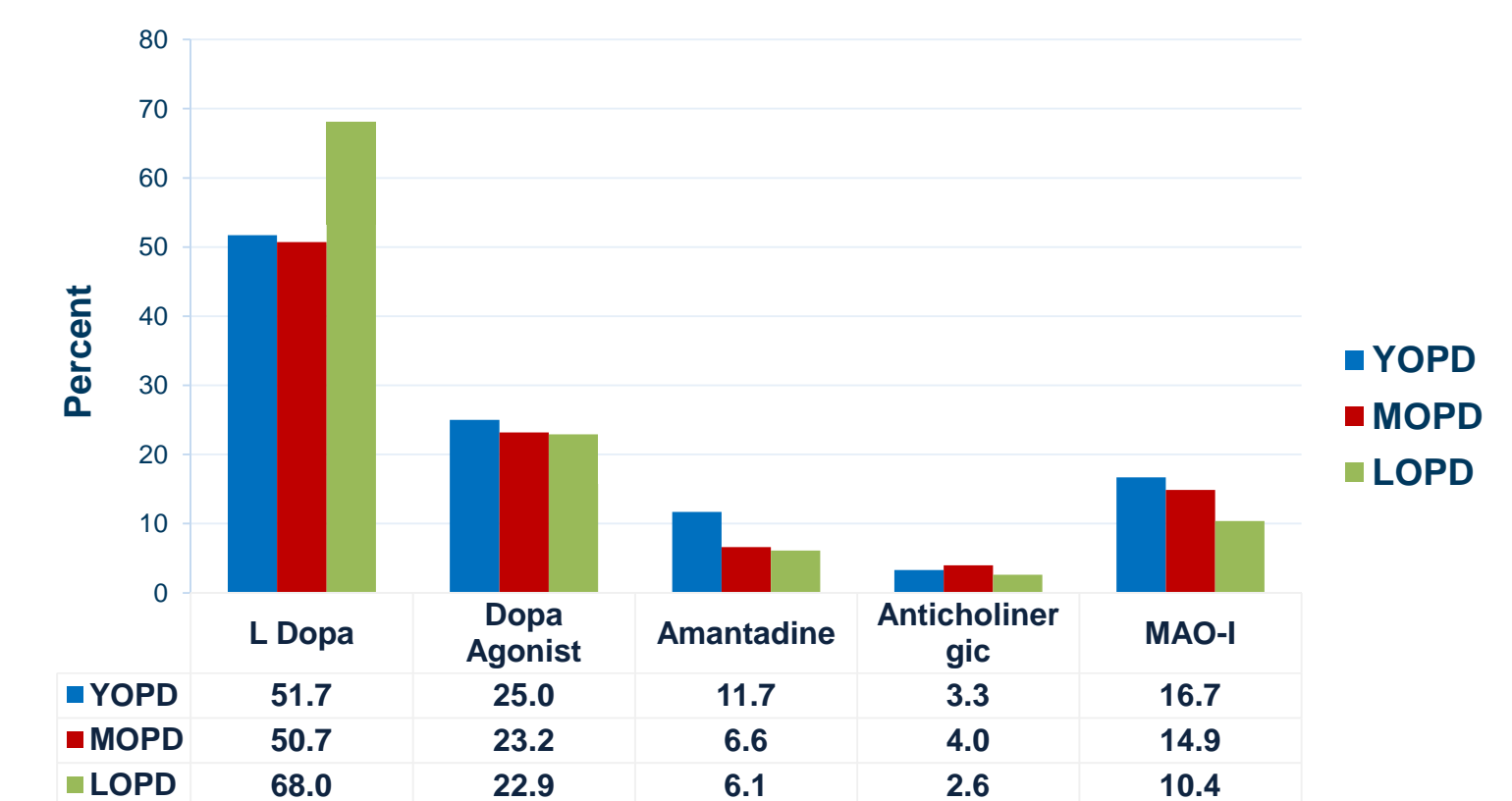
Initial symptom of Parkinson's disease



Family history of Parkinson's disease.



Initial medication for Parkinson's disease



Conclusion: There were clinical differences between the YOPD, MOPD and LOPD groups. Rigidity and pain presented as initial symptoms more frequently in YOPD while gait instability was more frequent in the older group. Carbidopa/levodopa was the preferred initial treatment for all groups but was more prescribed in LOPD.

Medical record review of charts for parkinsonism patients seen in a Department of Veterans Affairs movement disorders clinic

Breakdown of charts reviewed			
Inclusion/exclusion code	N	Percentage	Description
Included - 1	593	81.3%	PD
Excluded - 2	55	7.5%	Other parkinsonism
Excluded - 3	40	5.5%	Not parkinsonism
Excluded - 4	41	5.6%	Lack of information
Total reviewed	729		

For 593 (81.3%) subjects, the chart review verified a diagnosis of idiopathic PD in a medical record containing the information being collected for analysis.

Demographic distribution

Characteristic	All subjects	Young onset age group	Middle onset age group	Older onset age group	p-value
Gender					
Men	579 (97.6%)	57 (95.0%)	296 (98.0%)	226 (97.8%)	0.350
Women	14 (2.4%)	3 (5.0%)	6 (2.0%)	5 (2.2%)	
Race/Ethnicity					
White	491 (82.8)	51 (85.0%)	247 (81.8%)	193 (83.5%)	0.195 (W/B/H only)
Black	55 (9.3%)	3 (5.0%)	26 (8.6%)	26 (11.3%)	
Hispanic	44 (7.4%)	5 (8.3%)	28 (9.3%)	11 (4.8%)	
Asian	2 (0.3%)	1 (1.7%)	0	1 (0.4%)	
Other/Unknown	1 (0.2%)	0	1 (0.3%)	0	
Family History of PD					
No	527 (88.9%)	48 (80.0%)	264 (87.4%)	215 (93.1%)	0.008
Yes	66 (11.1%)	12 (20.0%)	38 (12.6%)	16 (6.9%)	

The groups did not differ by gender or race/ethnicity, but differed by positive family history of PD