

노인재활

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소: 10 월 18 일(금) 10:00-10:45 Room G(3F)

## **P 1-12**

### **Coordination between trunk and pelvis showed reduced reciprocity in early PD**

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#### **Background**

Coordination in axial segments has relationship with sensory motor integration and gait stability in Parkinson's disease (PD). Although axial impairments increase along to disease duration, elucidating characteristics of axial coordination in early PD is clinically significant.

#### **Method**

39 participants with early PD and 18 controls were included. All participants could walk faster than 0.8m/sec. Participants with PD were "drug naïve" and their Hoehn & Yahr stage were from 1 to 3. Participants performed level walking with comfortable speed and 3D motion analysis was conducted. Vector coding technique was used to quantify coordination between trunk and pelvis. Ensemble of coupling angles across walking trials was obtained. Coordination patterns were classified into 4 patterns; pelvis dominant, trunk dominant, in-phase and out-phase according to previous study. Frequencies of 4 coordination patterns were compared between PD and control groups.

#### **Results**

Age, sex, height, weight, and body mass index did not show statistically significant differences between the PD and control groups. Walking speed, cadence, stride length and step width also did not differ between 2 groups. Out-phase pattern was most frequently observed in PD (39.25%) and controls (47.67%), which showed statistically significant differences between 2 groups (Fig 1) (Table 1). Pelvis dominant pattern also significantly increased in PD (22.83%), compared to controls (16.11%). Trunk and pelvis range of motions are smaller in PD than controls.

#### **Conclusions**

PD showed decreased reciprocal movement between trunk and pelvis in transverse plane during level walking. We believe that trunk impairments start at early stage of PD and therapeutic interventions for these coordination changes should be performed for early stage PD.

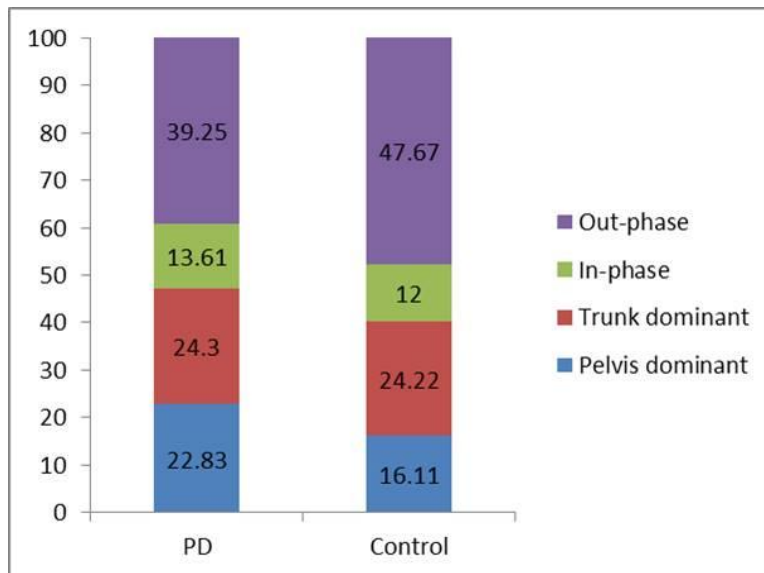


Fig 1. coordination difference between PD and controls

Table 1. Comparison of coordination pattern in transverse plane

	PD (n=39)	Control (n=18)	p-value
Pelvis dominant (%)	22.83 (5.15)	16.11 (11.93)	<b>.005*</b>
Trunk dominant (%)	24.30 (9.12)	24.22 (10.36)	.977
In-phase (%)	13.61 (6.80)	12.00 (5.66)	.363
Out-phase (%)	39.25 (13.42)	47.67 (14.07)	<b>.043*</b>

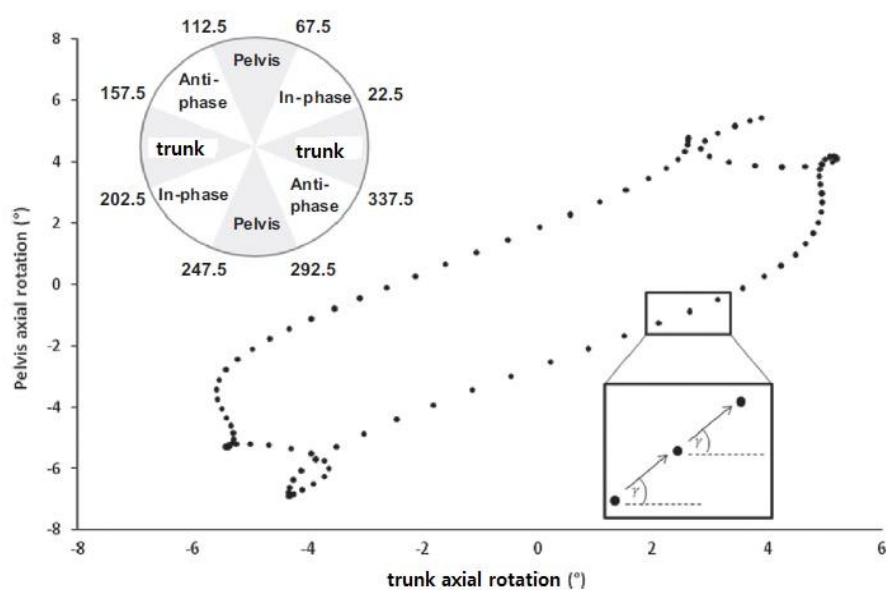


Fig. 1 suppl. Vector coding method