

제 목	국 문		
	영 문	Selegiline and lymphocyte superoxide dismutase activities in Parkinson's disease	
저 자 및 소 속	국 문		
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<p>1. Introduction</p> <p>Superoxide dismutases (SODs) are metalloenzymes that detoxify superoxide radicals, and occur in cytosolic (Cu, Zn-SOD) and mitochondrial (Mn-SOD) forms in multiple tissues, including brain. A neuroprotective effect against oxide stressor exposures may be provided by SOD, although excessive enzymes activity can produce cell injury by formation of hydroxyl radical from hydrogen peroxide.</p> <p>2. Materials and Methods</p> <p>We measured Cu,Zn-SOD and Mn-SOD activities in peripheral lymphocytes of 43 newly diagnosed idiopathic Parkinson's disease (PD) cases and 62 age- and sex-matched controls free of neurodegenerative disorders.</p>			

3. Results

Significant excesses of both SOD forms were found among PD cases compared with controls; however, the excesses were found exclusively among PD patients treated with the monoamine oxidase inhibitor selegiline (L-deprenyl). Enzyme-linked immunosorbent assays (ELISA) confirmed that the activity excesses were due to increased protein rather than more highly reactive enzymes in lymphocytes of PD cases. Our findings clearly indicate the importance of selegiline on measured Cu,Zn-SOD and Mn-SOD activity in peripheral lymphocytes.

4. Discussion

Neither the underlying mechanism of SOD induction by selegiline nor the potentially therapeutic value of SOD elevation can be inferred from our study because only single enzyme measurements were made. More conclusive evidence will require further characterization of tissue-specific SOD induction by selegiline and longitudinal assessment of SOD activity in relation to PD progression. Nevertheless, our results are consistent with an SOD induction mechanism by selegiline, and underscore the importance of determining medication use in enzyme profile studies of PD.