

Meta-analysis of brain iron levels of Parkinson's disease patients determined by postmortem and MRI measurements

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Supplementary Table S1. The disease comorbidity and diagnostic performance of the included 33 studies

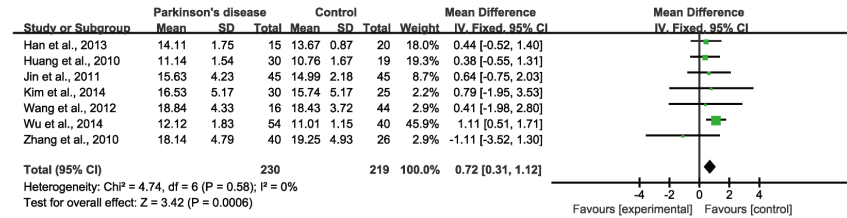
Article	PD patients	Controls
Yu et al., 2013 ¹⁷	NM	No neurologic or psychiatric disease
Loeffler et al., 1995 ¹²	NM	Other than CNS disease and lacking any form of pathology at autopsy
Griffiths et al., 1993 ¹¹	NM	No neurologic or psychiatric disease
Dexter et al., 1989 ²	NM	No neurologic or psychiatric disease
Riederer et al., 1989 ⁴	NM	Heart failure (2), lung embolism (1), and labile hypertension (1)
Sofic et al., 1988 ¹³	Bronchopneumonia (6), pulmonary embolism after leg vein thrombosis and hypertensive heart disease (1), and cardiac arrest after colon carcinoma (1)	Died without any evidence of neurological or psychiatric disease. Bronchopneumonia (2), myocardial infarction (1), pulmonary thromboembolism and arteriosclerotic cerebrovascular disease (1), coronary arteriosclerosis and old infarction (1), coronary thrombosis (1), cor pulmonale, chronic bronchitis and emphysema (1), and pleural mesothelioma (1)
Visanji et al., 2013 ¹⁵	NM	NM
Wypijewska et al., 2010 ¹⁶	Died at advanced stages of the disease	No neurological diseases (myocardial infarct in most cases)
Galazka-Friedm et al., 1996 ¹⁰	Unrelated to the neurological disease (pneumonia, heart disease).	Died without any symptoms of an extrapyramidal disease
Uitti et al., 1989 ¹⁴	NM	NM
Chen et al., 1993 ⁹	NM	NM
Gorell et al., 1995 ¹⁸	Absence of either neuroleptic drug intake or a CNS disorder with Parkinson-like and other neurologic deficits (e.g. cerebellar, corticospinal, amyotrophic, autonomic, or supranuclearophthalmoplegic signs)	Free of CNS disease
Graham et al., 2000 ¹⁹	NM	Volunteer or spouses of patients with

		Parkinson's disease
Martin et al., 2008 ²⁰	NM	Free of neurologic or psychiatric disease
Du et al., 2012 ²¹	NM	NM
Bunzeck et al., 2013 ²²	No psychiatric or neurological disorders other than PD	No history of neurological, psychiatric or medical disorders or any current medical problems
Lee et al., 2013 ²³	No microvascular lesions found on brain MRI	No neurologic or psychiatric disease
Lewis et al., 2013 ³	Free of major acute medical issues such as liver, kidney or thyroid abnormalities, or deficiencies of B12 or folate.	NM
Rossi et al., 2013 ²⁴	Exclusion criteria: Alzheimer's disease or any other type of dementia that was diagnosed within 1 year preceding the study; alcohol or drug addiction; pregnancy, severe general illnesses such as cardiac, lung, or gastrointestinal disease; liver or kidney malfunction; active malignant neoplasm; and neurological or psychiatric disease.	Hospital employees and the patients' spouses: the inclusion criterion was a clinical examination with no abnormal findings. The exclusion criterion was a history of cerebrovascular attack.
Ulla et al., 2013 ²⁵	NM	No neurologic or psychiatric disease
Rossi et al., 2014 ²⁶	Exclusion criteria: presence of Alzheimer's disease or other dementia; other severe disease such as heart, lung, or gastrointestinal disease; hypofunction of liver or kidney; active cancer; neurological or psychiatric disease; a history of cerebrovascular attack; contraindications for MRI; alcohol or drug addiction; and pregnancy.	A clinical neurological examination with no abnormal findings
Barbosa et al., 2015 ²⁷	No history of other neurological and psychiatric disorders	No history of neurological disease, hypertension or diabetes
Murakami et al., 2015 ³⁰	NM	No history of neurologic or psychiatric diseases
He et al., 2015 ²⁹	No presence of dementia; no other neurological or psychiatric disorders	NM
Du et al., 2016 ²⁸	No history of neurological or psychiatric disease other than PD	No neurologic or psychiatric disease
Zhang et al., 2010 ³⁴	Without dementia, no history of neurologic or psychiatric disease and neurologic sequelae induced by brain trauma	Hospital staff and local community
Jin et al., 2011 ³⁵	Exclusion criteria: signs of upper and/or lower motor neuron dysfunction; orthostatic hypotension within three years of PD onset; cognitive impairment as assessed by the Mini-Mental State Examination; hepatic and/or renal dysfunction.	No history of neurologic/psychiatric disorders and no abnormal signal in structural magnetic resonance imaging.

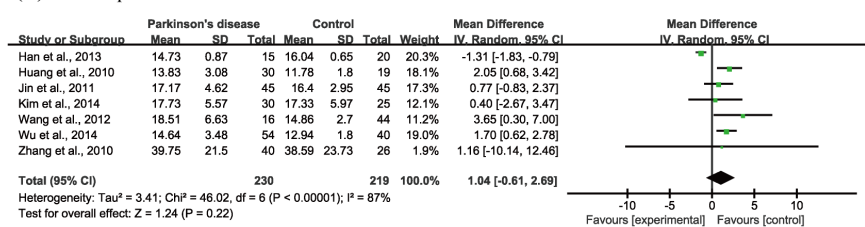
Wang et al., 2011 ³²	NM	No abnormal signal in MRI examination; no history of central nervous system disease; no drug abuse, smoking and alcohol history
Wang et al., 2012 ³⁷	NM	NM
Han et al., 2013 ³¹	NM	No neurologic or psychiatric disease
Kim et al., 2014 ³⁶	NM	NM
Wu, et al., 2014 ³³	NM	NM
Huang, et al., 2010 ³⁸	NM	Healthy volunteers

NM, not mentioned. The numbers in parenthesis indicate ‘n’ for each comorbidity.

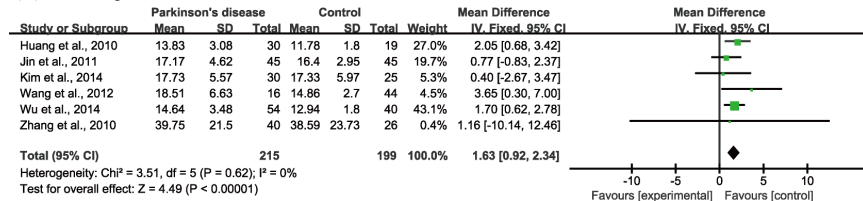
(A) Nucleus caudatus



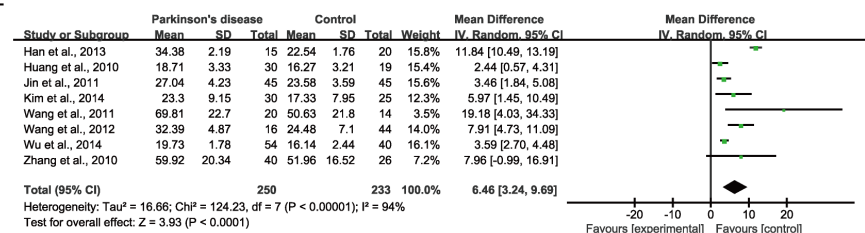
(B) Globus pallidus



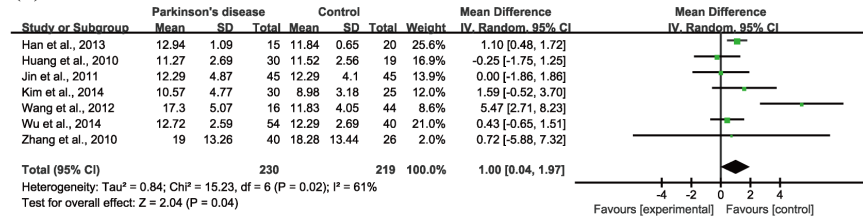
(C) Globus pallidus*



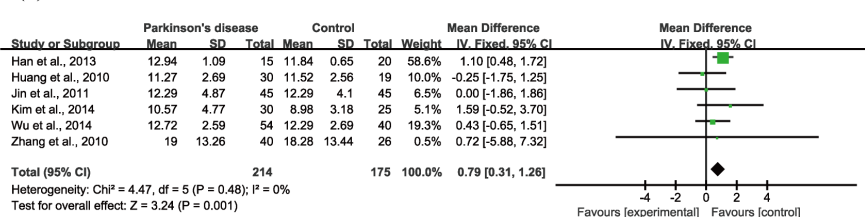
(D) Substantia nigra



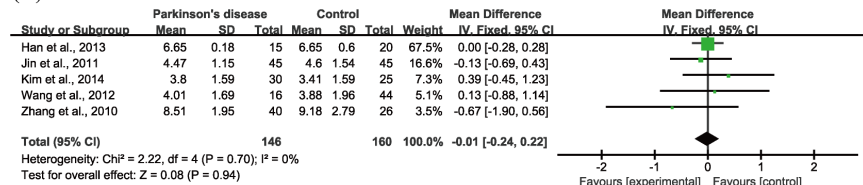
(E) Putamen



(F) Putamen*



(G) Thalamus



(H) Red nucleus

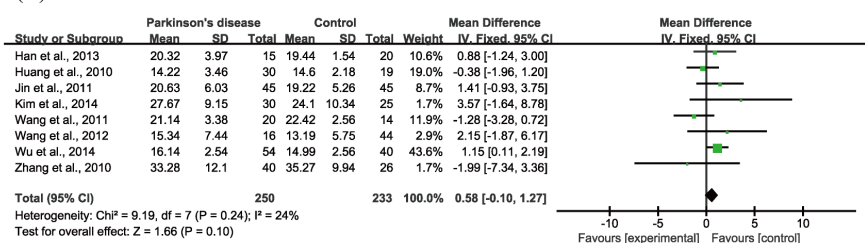


Figure S1. Statistical summaries and forest plots of studies comparing iron concentrations between PD patients and controls by SWI relaxometry. B, D and E, pooled using random-effects models. The others were pooled using fixed-effects models. *, analyzed after heterogeneity was removed.

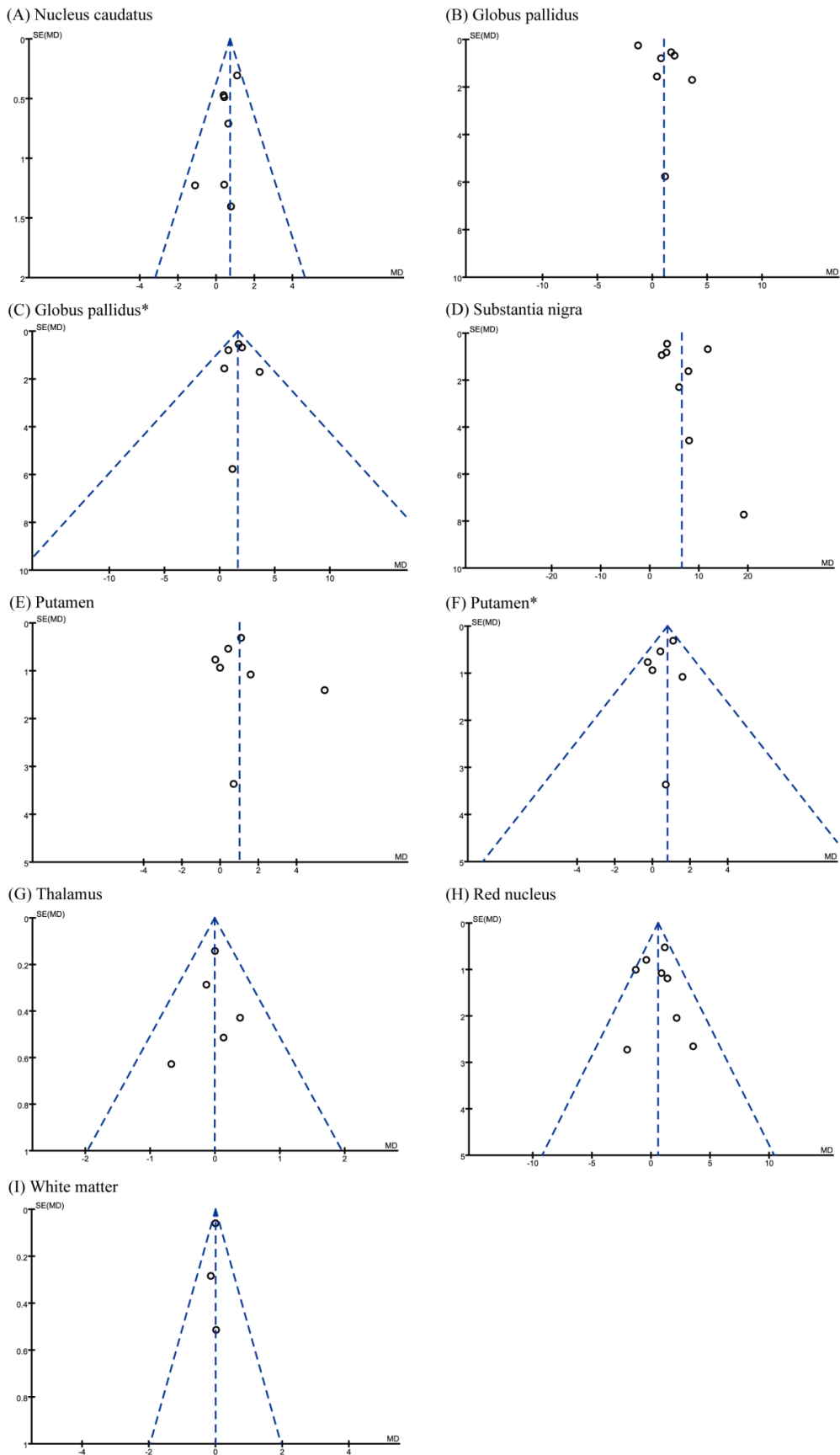


Figure S2. Funnel plots that examine possible publication bias in the studies by SWI. *, analyzed after heterogeneity was removed.