

SUPPLEMENTARY DATA

**Supplementary Table 1.** Case-control studies excluded from quantitative synthesis and related reasons.

| Source [reference] | Main reason of exclusion   | Additional information   |
|--------------------|--|--|
| Kessler 1972a [1]  | No information was provided on whether the onset of diabetes preceded the onset of PD  | Important selection bias: both patients and controls were recruited in a hospital setting. It is reasonable to argue that the rates of several comorbidities were non-representative. Reported prevalence of diabetes was similar in both groups (PD crude OR = 1.15 [95% C.I. 0.80-1.67])                   |
| Kessler 1972b [2]  | No information was provided on whether the onset of diabetes preceded the onset of PD  | A trend towards a lower prevalence of diabetes in PD was reported (PD crude OR = 0.55 [95% C.I. 0.29-1.04])  |
| Rajput 1987 [3]    | Chronic illnesses present before and after indexing for PD were grouped. Diabetes and thyroid disease were grouped together when providing prevalence data   | Reported prevalence of endocrine disorders was similar in both groups  |
| Struck 1990 [4]    | No information was provided on whether the onset of diabetes preceded the onset of PD  | Important selection bias: both patients and controls were recruited in a hospital setting. It is reasonable to argue that the rates of several comorbidities were non-representative. A trend towards a lower prevalence of diabetes in PD was reported  |
| Levine 1992 [5]    | No information was provided on whether the onset of diabetes preceded the onset of PD  | Important selection bias: both patients and controls were recruited in a hospital setting. It is reasonable to argue that the rates of several comorbidities were non-representative. Reported prevalence of diabetes was similar in both groups   |
| Morano 1994 [6]    | PD cases were compared to an unselected age and sex-matched control group of subjects presenting at the emergency room for non-neurological ailments or to neurologic clinics for functional CNS disorders | Reported prevalence of diabetes was similar in both groups (PD crude OR = 1.39 [95% C.I. 0.63-3.08])   |
| Herishanu 2001 [7] | No information was provided on whether the onset of diabetes preceded the onset of PD  | Prevalent cerebrovascular disease was not an exclusion criterion. Controls were recruited in a hospital setting and a higher prevalence of vascular risk factors (diabetes, hypertension or dyslipidemia) might have occurred. Prevalence of diabetes was lower in PD patients (crude OR = 0.35 [0.15-0.75]) |

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|------------------------|---|---|
| Paganini-Hill 2001 [8] | No information was provided on whether the onset of diabetes preceded the onset of PD | The study included residents of a retirement community (non-representative group of the general population). Diabetes did not appear to be a risk factor for PD   |
| Pressley 2003 [9]      | No information was provided on whether the onset of diabetes preceded the onset of PD | Patients with parkinsonism and PD were grouped. Moreover, data on incident comorbidities occurring before or after the diagnosis of either PD or parkinsonism were pooled together.   |
| Tan 2003 [10]          | No information was provided on whether the onset of diabetes preceded the onset of PD | Both patients and controls were poorly characterized. Diabetes did not appear to be a risk factor for PD (P=0.88)   |
| Guttman 2004 [11]      | No information was provided on whether the onset of diabetes preceded the onset of PD | Important selection bias: both patients and controls were recruited in a hospital setting. It is reasonable to argue that the rates of several comorbidities were non-representative. Moreover, patients with parkinsonism may have been included in PD group |
| Nataraj 2005 [12]      | No information was provided on whether the onset of diabetes preceded the onset of PD | Reported prevalence of diabetes was similar in both groups (PD crude OR = 1.08 [95% C.I. 0.84-1.37])  |
| Tan 2007 [13]          | No information was provided on whether the onset of diabetes preceded the onset of PD | Important selection bias: controls were recruited in a hospital setting. Diabetes was unrelated to PD   |

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### References

1. Kessler II. Epidemiologic studies of Parkinson's disease. II. A hospital-based survey. *Am J Epidemiol* 1972;95:308-318.
2. Kessler II. Epidemiologic studies of Parkinson's disease. 3. A community-based survey. *Am J Epidemiol* 1972;96:242-254.
3. Rajput AH, Offord KP, Beard CM, Kurland LT. A case-control study of smoking habits, dementia, and other illnesses in idiopathic Parkinson's disease. *Neurology* 1987;37:226-232.
4. Struck LK, Rodnitzky RL, Dobson JK. Stroke and its modification in Parkinson's disease. *Stroke* 1990;21:1395-9.
5. Levine RL, Jones JC, Bee N. Stroke and Parkinson's disease. *Stroke* 1992;23:839-842.
6. Morano A, Jiménez-Jiménez FJ, Molina JA, Antolín MA. Risk-factors for Parkinson's disease: case-control study in the province of Cáceres, Spain. *Acta Neurol Scand*. 1994;89:164-170.
7. Herishanu YO, Medvedovski M, Goldsmith JR, Kordysh E. A case-control study of Parkinson's disease in urban population of southern Israel. *Can J Neurol Sci* 2001;28:144-147.
8. Paganini-Hill A. Risk factors for Parkinson's disease: the leisure world cohort study. *Neuroepidemiology* 2001;20:118-124.
9. Pressley JC, Louis ED, Tang MX, Cote L, Cohen PD, Glied S, Mayeux R. The impact of comorbid disease and injuries on resource use and expenditures in parkinsonism. *Neurology* 2003;60:87-93.
10. Tan EK, Tan C, Fook-Chong SM, Lum SY, Chai A, Chung H, Shen H, Zhao Y, Teoh ML, Yih Y, Pavanni R, Chandran VR, Wong MC. Dose-dependent protective effect of coffee, tea, and smoking in Parkinson's disease: a study in ethnic Chinese. *J Neurol Sci* 2003;216:163-167.
11. Guttman M, Slaughter PM, Theriault ME, DeBoer DP, Naylor CD. Parkinsonism in Ontario: comorbidity associated with hospitalization in a large cohort. *Mov Disord* 2004;19:49-53.
12. Nataraj A, Rajput AH. Parkinson's disease, stroke, and related epidemiology. *Mov Disord* 2005;20:1476-1480.
13. Tan XH. Risk factors for Parkinson disease and the path analysis: One-to-one paired design *Neural Regeneration Research* 2007;2:117-20.