

Table S6. Risk of bias assessment of case-control studies and the authors' judgements about each downgraded study.

Author, year	Can we be confident in the exposure assessment?	Can we be confident in the PD diagnosis of cases?	Were the cases properly selected?	Can we be confident that the controls did not have PD or any other neurodegenerative disease?	Were the controls properly selected?	Were cases and controls matched according to important prognostic variables or was statistical adjustment carried out for those variables?
Case-control studies						
Brouwer et al. 2017	Probably yes.	Probably not. No mentioned criteria.	Definitely yes.	Probably yes.	Probably yes.	Probably not. The variable "duration of exposure" was not considered in the adjustments.
Sanders et al. 2017	Probably yes.	Probably yes.	Definitely yes.	Definitely not. It was not clear whether controls had any other type of neurodegenerative disease.	Probably yes.	Probably not. The variable "duration of exposure" was not considered in the adjustments.
Tanner et al. 2011	Probably yes.	Definitely yes.	Definitely yes.	Definitely yes.	Definitely yes.	Probably not. The variable "duration of exposure" was not considered in the adjustments.

Rugbjerg et al. 2011	Probably not. Although the hygienist was blinded, the PQ exposure was not detailed.	Probably yes.	Definitely not. Cases clearly selected from different populations: rural and urban. Urban populations might be exposed to other substances differently than rural populations.	Definitely not. It was not clear whether controls had any other type of neurodegenerative disease. Only PD patients were excluded.	Probably yes.	Definitely not. Since the OR for paraquat exposure was not calculated, it was not possible to adjust for any variable.
Firestone et al. 2010	Probably not. Self-reported exposure; although there was blinding of assessors and subjects, the PQ exposure was not detailed.	Probably yes.	Definitely yes.	Probably yes.	Probably yes.	Probably not. The variable “duration of exposure” was not considered in the adjustments.
Tanner et al. 2009	Probably not. Self-reported exposure; although there was blinding of subjects, the PQ exposure was not detailed.	Definitely not. Parkinsonism investigated.	Probably not. Different populations, from two different countries (USA and Canada).	Probably yes.	Probably yes.	Probably not. The variable “duration of exposure” was not considered in the adjustments.
Elbaz et al. 2009	Probably yes.	Probably yes.	Probably yes.	Definitely yes.	Definitely yes.	Probably yes.

Dhillon et al. 2008	Probably not. The PQ exposure was not detailed.	Probably not. Only assessment of medical files; no criteria described.	Probably yes.	Probably not. Not clear whether they had any type of other neurodegenerative disorders. Only PD patients were excluded.	Probably yes.	Probably not. The variable “duration of exposure” was not considered in the adjustments.
Kuopio et al. 1999	Probably not. The PQ exposure was not detailed.	Definitely yes.	Definitely not. Different populations: rural and urban. Urban populations might be exposed to other substances differently than rural populations.	Definitely yes.	Probably yes.	Definitely not. No adjustments for major confounding factors.
Liou et al. 1997	Probably not. Self-reported exposure; although there was blinding of subjects and assessors, the PQ exposure was not detailed.	Probably yes.	Definitely yes.	Probably yes.	Probably yes.	Probably yes.
Seidler et al. 1996	Probably not. Self-reported exposure; although there was blinding of subjects, the PQ exposure was not detailed.	Definitely yes.	Probably yes.	Definitely not. It was not clear whether controls had any type of other neurodegenerative disease.	Probably yes.	Probably not. The variable “duration of exposure” was not considered in the adjustments.

Hertzman et al. 1994	Probably not. Self-reported exposure; although there was blinding of assessors, the PQ exposure was not detailed.	Probably yes.	Probably yes.	Probably not. It was not clear whether controls had any type of other neurodegenerative disease.	Probably yes.	Definitely not. No adjustment for major confounding factors.
Semchuk, Love, and Lee 1992	Probably not. Self-reported exposure; although there was blinding of subjects and assessors, the PQ exposure was not detailed.	Probably yes.	Probably yes.	Definitely not. It was not clear whether controls had any type of other neurodegenerative disease.	Probably yes.	Definitely not. No adjustment for major confounding factors.

All answers as: definitely yes (low risk of bias), probably yes, probably no, definitely no (high risk of bias).