Introduction: Occurrence of transfusion transmissions of variant Creutzfeldt-Jakob disease (CJD) cases have reawakened attention to the possible similar risk posed by other forms of CJD.

Aims: This retrospective case-control study aims to investigate whether blood transfusion is a risk factor for sporadic CJD by taking into account a possible long (more than 10 years) incubation period.

Methods: CJD and 'no-CJD' patients with available blood transfusion history were included in the study. The risk of exposure to blood transfusion occurring more than 10 years before disease onset was evaluated by calculating crude odds ratios (ORs).

Results: In the univariate model, blood transfusion occurring more than 10 years before clinical onset is 4.1 folds more frequent in sporadic CJD than in other neurological disorders. This significance is lost when the 10 years lag-time was not considered. Multivariate analyses show that the risk of developing sporadic CJD after transfusion increases (OR, 5.05) after adjusting for possible confounding factors. Analysis conducted on patients with genetic CJD did not reveal any significant risk factor associated to transfusion.

Conclusion: This is the first case-control study showing a significant risk of transfusion occurring more than 10 years before clinical onset in sporadic CJD patients. It remains questionable whether the statistical significance of these data is biological plausible or the consequence of biases in the design of the study, but they counterbalance previous epidemiological negative reports that might have overestimated the assessment of blood safety in sporadic CJD.