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Letter to Editor

PON1 L55M in ischemic stroke

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I have read with interest a recent report by Shao and coworkers on the putative role of PON1 in ischemic stroke [1]. In their report, the authors refute an association of a missense substitution on the phenotype under study based on earlier research. It appears unlikely, however, that the results can be upheld in the present form.

To begin with, study inclusion criteria are not respected. Contrary to the claims made, Hardy-Weinberg equilibrium is violated in controls (see Aydin et al., 2006 [2]) and studies without genotype details were included (Wang et al. [3], Zhang et al. [4], and Pasdar et al. [5]). Major flaws in the original publications were overseen, e.g. the muddling of cases and controls by Zhang et al., 2013 [4], or striking discrepancies in minor allele frequencies (e.g. Aydin et al., 2006 [2]) that should have led to an exclusion from pooling the respective genotype data. Likewise, obvious typographical errors that interfere with allele specifications in another study (Moghtaderi et al., 2011 [6]) were tolerated and results were arbitrarily modified *a posteriori*. Sample size is also incorrect in several studies (e.g., Imai et al., 2000 [7], Ranade et al., 2005 [8]), reaching the three-fold of the original figure in one study (Slowik et al., 2007 [9]).

Misclassification of some 2,634 Chinese subjects (Wang et al., 2009 [3]) as 'Caucasians' casts further doubt on the validity of results for Asian and non-Asian populations. The odds ratios shown deviate markedly from those published (e.g., for the additive model, a risk-lowering OR is given whereas the original paper cites a risk-enhancing OR [10] and *vice versa* [3]). Finally, the meta-analysis refers to subsamples

with large vessel disease only in some studies [9] but includes subsamples with small vessel disease and large vessel disease in others [5]. On the whole, the report by Shao and colleagues provides a blurred view of effects that may be attributable to a paraoxonase variant in ischemic stroke and is best reconducted.

Disclosure of conflict of interest

None.

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