Letter regarding Wang GQ et al. entitled “Associations between Fas/FasL polymorphisms and susceptibility to cervical cancer: a meta-analysis”

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To the Editor,

Wang et al. [1] conducted a meta-analysis to assess the associations between Fas/FasL polymorphisms and susceptibility to cervical cancer. They calculated the pooled odds ratio (OR) with 95 % confidence intervals (95 % CIs) by using different effects models and concluded that Fas 1377G>A polymorphism and FasL 844 T>C polymorphism are both not associated with susceptibility to cervical cancer. Before their results can be accepted, we would like to express some concerns in relation to their meta-analysis.

Firstly, the investigators (Wang et al.) carried out the literature search in PubMed and Embase databases for studies on the associations between Fas/FasL polymorphisms and susceptibility to cervical cancer. The small number of required papers would be an important limitation of this meta-analysis. To make the meta-analysis more credible, the investigators should give us the details for search strategy and search more electronic databases.

Secondly, the investigators included 11 studies [2–6] with a total of 6,919 subjects into the meta-analysis. We searched the studies by the same way once again and found that a study by Sun et al. [7] was also eligible for selection criteria. In our opinion, the investigators should include the study by Sun et al. [7] and recalculate the pooled OR with 95 % CIs to assess the associations between them.

Thirdly, we suggest that the investigators should evaluate the methodological quality of the selected studies, which could avoid the potential bias in the meta-analysis. Each included paper could be independently assessed by two investigators using a standardized electronic form of predefined criteria.

Fourthly, the departure of frequencies of Fas/FasL polymorphisms from expectation under the Hardy-Weinberg equilibrium (HWE) in the control population should be assessed using the goodness-of-fit chi-square test and a $P < 0.05$ be considered a significant disequilibrium. A significant difference between the observed and expected genotype frequencies under the HWE may indicate a genotype error [8]. Departure from the HWE can be caused by factors such as inbreeding caused by consanguinity, assortative mating, i.e., nonrandom mating, selection, or migration [9]. Although exceptions to the conditions of the HWE may explain deviation, it is important that investigators recognize the need to perform a test of the HWE and then evaluate the reasons for any observed deviation.

Finally, the investigators did not provide us the forest plots for the comparisons of “AA vs GG and AA vs GG/GA” in Fig. 1 and “CC vs TT” and “CC vs TT/TC” in Fig. 2. Meanwhile, they also did not provide us the funnel plots to show no publication bias. In our opinion, the investigators should add all these plots in the meta-analysis.

Thanks go to the authors for their contribution in supplying us with an assessment of the associations between Fas/FasL polymorphisms and susceptibility to cervical cancer. However, further studies with large samples are still needed to assess the associations above.

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Conflicts of interest None

References

1. Wang GQ, Bao L, Zhao XX, Zhang J, Nan KJ. Associations between Fas/FasL polymorphisms and susceptibility to cervical cancer: a meta-analysis. *Tumour Biol.* 2014;35:4107–12.
2. Lai HC, Lin WY, Lin YW, Chang CC, Yu MH, Chen CC, et al. Genetic polymorphisms of FAS and FASL (CD95/CD95L) genes in cervical carcinogenesis: an analysis of haplotype and gene-gene interaction. *Gynecol Oncol.* 2005;99:113–8.
3. Ivansson EL, Gustavsson IM, Magnusson JJ, Steiner LL, Magnusson PK, Erlich HA, et al. Variants of chemokine receptor 2 and interleukin 4 receptor, but not interleukin 10 or Fas ligand, increase risk of cervical cancer. *Int J Cancer.* 2007;121:2451–7.
4. Kang S, Dong SM, Seo SS, Kim JW, Park SY. FAS–1377 G/A polymorphism and the risk of lymph node metastasis in cervical cancer. *Cancer Genet Cytogenet.* 2008;180:1–5.
5. Chatterjee K, Engelmark M, Gyllensten U, Dandara C, van der Merwe L, Galal U, et al. Fas and FasL gene polymorphisms are not associated with cervical cancer but differ among black and mixed ancestry South Africans. *BMC Res Notes.* 2009;2:238.
6. Li H, Guo HY, Sun T, Zhou YF, Lin DX, Zhang WH, et al. Association between Fas/Fas L genes promoter polymorphisms and pathogenic risk of cervical cancer. *Chin J Oncol.* 2009;31(1):38–41.
7. Sun T, Zhou Y, Li H, Han X, Shi Y, Wang L, et al. FASL -844C polymorphism is associated with increased activation-induced T cell death and risk of cervical cancer. *J Exp Med.* 2005;202:967–74.
8. Xu J, Tumer A, Little J, Bleecker ER, Meyers DA. Positive results in association studies are associated with departure from Hardy-Weinberg equilibrium: hint for genotyping error? *Hum Genet.* 2002;111(6):573–4.
9. Ziegler A, Van Steen K, Wellek S. Investigating Hardy-Weinberg equilibrium in case-control or cohort studies or meta-analysis. *Breast Cancer Res Treat.* 2011;128(1):197–201.