
LETTER TO THE EDITOR

Short Comments on the Statistical Method Used in the Paper: Difference in Angiotensinogen Haplotype Frequencies...

V. LÁNSKÁ

Medical Statistics Unit, Institute for Clinical and Experimental Medicine, Prague, Czech Republic

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Corresponding author

V. Lánská, Medical Statistics Unit, Institute for Clinical and Experimental Medicine, Vídeňská 1958/9, 140 21 Prague, Czech Republic. E-mail: vera.lanska@ikem.cz

The paper is devoted to the problem of proving the difference in distributions of the haplotype in two independent samples. The haplotype frequencies are calculated using the method of reconstructing haplotypes from population data. This method gives the probability (relative frequency) for all possible haplotype combinations. There are four combinations and thus the

distribution function could be presented as the vector of length four. Please note, that the haplotype counts are not known but their relative frequencies only. This fact complicates the statistical inference.

The authors used the method that did not correspond properly to the problem of comparison of two distributions. They applied statistical tests for each of four categories of relative frequencies separately and thus they neglected the information on the possible relations among the four categories. At least, it holds that the sum of relative frequencies is equal to 1.

The comparison of two independent distribution functions can be done, for example, by the Kolmogorov-Smirnov test (Sachs 1984, Chapter 3.9.3), which uses all the information contained in the corresponding vectors en bloc. If the Kolmogorov-Smirnov test is applied here, then all the results in Table 3 and 4 are not statistically significant and this is in contradiction with presented results. From this point of view the conclusions of the mentioned paper are questionable.

References

SACHS L: *Applied Statistics*. Springer-Verlag, New York Inc., 1984.
