

LETTER TO THE EDITOR

THE HAPLOTYPES OF L55M AND Q192R *PON1* POLYMORPHISMS AND THE RISK OF PROSTATE CANCER

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Dear Editor,

With particular interest I read the article published by Heise *et al.* entitled "Clinical significance of *PON1* L55M, Q192R and I102V polymorphisms and their association with prostate cancer risk in Polish men". The authors determined the genotypes of 110 prostate cancer (PC) patients and 110 healthy controls. They found that there was no association between the genotypes of the *PON1* polymorphisms and the risk of PC. Also they tried to study the association between the haplotypes of the *PON1* polymorphisms and PC risk [1]. However, they used genotype combinations instead of haplotypes. Therefore, I am going to estimate the haplotypes and compared them between the prostate cancer patients and control groups.

Considering that the L55M and Q192R polymorphisms are located on a same functional gene and there is a limited number of nucleotides between them, they should revealed strong linkage disequilibrium (LD). Based on Expectation-Maximization algorithm (EM-algorithm), the LD between the L55M and Q192R *PON1* genetic polymorphisms was estimated using the SNPalyze(TM) software (ver. 6 Standard, Dynacom Co, Ltd. Kanagawa, Japan). I used raw data which presented in second table of Heise's and her colleagues article [1]. Analysis revealed that the L55M and Q192R polymorphisms in both control ($D' = 0.9191$, $r^2 = 0.1694$, $c^2 = 35.11$, $P = 3.1 \times 10^{-9}$) and prostate cancer ($D' = 0.7613$,

$r^2 = 0.1305$, $c^2 = 29.38$, $P = 5.9 \times 10^{-8}$) groups are in tight LD. There are four haplotypes (LQ, LR, MQ, and MR) in the polish gene pool (Table I). The haplotypes LQ and MQ have high frequency in both cases and controls and the haplotype LR has very low frequency. These findings are very similar to other Caucasians populations [2, 3]. Because the LQ haplotype is more common in control participants, I used as a reference group. Analysis showed no significant association between the haplotypes and susceptibility to PC (Table I). Finally it should be noted that the limited sample size is a main limitation of the study which has been performed by Heise *et al.* Considering that the haplotype LR is more frequent among PC group compared to the control group, further large scaled case-control studies are needed to find the real association between the *PON1* haplotypes and the risk of PC.

The author declares no conflict of interest.

References

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Table I. Association between the haplotypes of L55M and Q192R *PON1* polymorphisms and the risk of prostate cancer

HAPLOTYPES	CONTROLS	PROSTATE CANCERS	OR	95% CI	P
LQ	83	81	1.0	–	–
MQ	82	81	1.01	0.65-1.56	0.956
MR	49	51	1.07	0.64-1.75	0.800
LR	2	5	2.56	0.48-13.5	0.269

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