Reviewer's report

Title: Polymorphisms and plasma levels of IL-27: impact on genetic susceptibility and clinical outcome of bladder cancer

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Reviewer: Edyta Reszka

Reviewer's report:

This manuscript reports the data on the potential associations between IL-27 genetic polymorphism, IL-27 plasma level and urinary bladder cancer (BC) risk and outcomes. The authors observed 1) significantly elevated cancer risk associated with rs153109 polymorphism, 2) association of rs17855750 polymorphism with overall survival and 3) with plasma IL-27 level. In my opinion this study presents novelty 9fisr study regarding BC risk and IL-27 polymorphism) and it is clearly organized but need some major revisions before accepted for publication.

Major Compulsory Revisions

1. I suggest to include Table with study groups (non-invasive, invasive bladder cancer and controls) characteristics.

2. Page 8. Methods section. Table 2. Figure 7. Abstract. Results. The authors claim that histological examination of BC patients tissues was performed. Please include correct clinicopathological features in the above Table. What does mean ‘Low-risk’ and ‘High-risk’ in Tumor grade description (see Table 2 and Figure 7). To our knowledge, BC tumor stage (T) refers to invasiveness and grade (G) to aggressiveness. Tumor stage (see Table 2) and grade (see Figure 7) does not refer directly to NMIBC and MIBC.

3. Figures 4 to 7. Please reconsider graphic presentation of negative results.

4. Table 1. Results. Abstract. It is very essential that authors used all genetic models (codominant, dominant, recessive, overdominant) in BC risk assessment. When rs153109 at least one minor allele significantly increases BC risk (dominant model), it was difficult to find association of rs17855750 at least one minor allele, because of lack of minor GG homozygotes in patients. Therefore, I would suggest to reconsider the statement that GG genotype increases cancer risk (see Abstract). Additionally, I would suggest to analyzed NMIBC and MIBC risk separately. OR should be adjusted to all possible confounding factors.

5. Table 2. Results. Abstract. Please, reconsider your findings and interpretation of results. Did you analyzed BC risk associated with IL-27 polymorphisms using only data from BC patients?

6. Recently (in 2014) two meta-analyses regarding rs153109 and rs17855750
IL-27 polymorphisms and overall cancer risk in Chinese population were published. I suggest to present these new data.

Minor Essential Revisions
Because IL-27 rs17855750 polymorphism results from T to G substitution and allele T is minor allele, please use description of heterozygotes as TG instead of GT.

Discretionary Revisions
None

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests.