Reviewer's report

Title: Toll-Like Receptor (TLR) and Nucleosome-binding Oligomerization Domain (NOD) gene polymorphisms and endometrial cancer risk

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Reviewer: ed davila

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As a means to identify risk factors implicated in endometrial cancer, Ashton et al examined the frequency of polymorphic variants in TLR and NOD genes in samples obtained from endometrial cancer patients. The logic for this study stems from the observations that endometrial cancer trigger inflammatory events and both TLRs and NODs are critical for recognizing infectious agents and consequently resulting in inflammation; a well-defined question.

The methods used for detection were adequate (standard PCR reactions) and the data appear to show changes in the variant C allele in TLR9.

To the best of this reviewer’s knowledge, this manuscript adheres to the relevant standards for reporting and data deposition.

The discussion and conclusions are generally supported by the data. However, these findings would shed more light (and possibly be more relevant) if the authors could substantiate that changes in TLR9 allele C lead to functional alteration in downstream signaling events. This could be accomplished in an in vitro model using endometrial cell lines if available or other cell lines in endometrial cell lines are not available.

The authors highlight the limitations of these studies: “…study the biological mechanisms underlying altered immune response in individuals harbouring these polymorphic variants must be further interrogated.”

The authors clearly acknowledge any work upon which they are building, both published and unpublished.

The title and abstract could more accurately convey these findings by including what the authors have found (namely, polymorphisms in TLR9).

The writing is acceptable.

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