Reviewer's report

**Title:** Evidence for antagonistic pleiotropy as a widespread mechanism for the maintenance of polymorphic disease alleles.

**Version:** 1  **Date:** 20 September 2011

**Reviewer:** Jamal Mohamed

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09/220/2011

BMC-Medical Genetics: Evidence for antagonistic pleiotropy as a widespread mechanism for the maintenance of polymorphic disease alleles

I found this manuscript to be a generally well written review on antagonistic pleiotropy as common mechanism for maintaining polymorphic diseases alleles with good examples. However, I do feel that the word “Evidences” in the title of the manuscript should be deleted. The authors have written this manuscript based on already existing data/literature; not based on their own experimental evidences. Thus, I would suggest that title could be as “Antagonistic pleiotropy as a widespread mechanism for the maintenance of polymorphic disease alleles”. Overall, I feel that it contains interesting information and is potentially acceptable for publication in; however I have comments, listed below, that require your consideration in the revision of this manuscript.

1. Indeed, an example of where the amalgamation of human and animal work did not read fluently. The authors should delete the statements on animal model in this review.

2. The authors failed to mention about point mutation at amino acid level in Sickle cell disease.

3. Osteoprotegerin (OPG) serves as an important mediator in bone physiology. Further, a handful of single-nucleotide polymorphisms in the OPG gene have been identified and found to be associated with bone mineral density, osteoporotic fractures, and coronary artery disease. Have authors reviewed on polymorphisms of osteoprotegerin (OPG) gene and BMD pertaining to antagonistic pleiotropy? If any data available, it should be included under this section.

4. I feel that the manuscript was well referenced; however the few references were obsolete.

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

**Quality of written English:** Acceptable
**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests