Reviewer's report

Title: Efficient and reproducible identification of mismatch repair deficient colon cancer: validation of the MMR index and comparison with other predictive models

Version: 4 Date: 28 November 2013

Reviewer: Erika Santos

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Major Revisions

The authors should consider that a deficiency in the repair system was evaluated from the immunohistochemistry. Although this is one important method of research, when considering the via methylation of MLH1, the authors should consider assessing the sequencing or methylation of the gene to ward off this possibility.

The authors do not discuss the study’s limitations, it is important that they are presented.

Minor Revisions

The authors should organize the abstract in order to make it more informative. Background section is too big and methods is too short. I suggest to reorganize it.

Even though cases of Lynch syndrome have been excluded, were excluded all cases with a family history? The Lynch syndrome is defined today as the presence of MMR deficiency, which is distinct of fulfillment of Amsterdam criteria. I suggest that it is important to make this distinction.

It is known that there are cases of familial aggregation, and familial colorectal cancer type X (where no deficiency was observed in mismatch repair genes) syndrome may be seen in patients with colorectal cancer diagnosed at an older age.

The model could be improved it included specific information about family history. In the cases of late-onset Lynch syndrome family history can not be with a large number of cases but may be present.

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

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

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