Reviewer's report

Title: The prognostic significance of age in operated and non-operated colorectal cancer

Version: 3  Date: 12 November 2014

Reviewer: Offir Ben-Ishay

Reviewer's report:

Dear Sir,

The paper presented by Jing Li et al. uses the SEER database, and is a retrospective database analysis with several subgroup analysis, using a solid cohort of patients (n=226,430) with CRC over a period of 10 years.

The authors define and describe well the problem and although some language editing is needed, the paper is well articulated and the primary and secondary end points are achieved.

After careful consideration of the article, I believe it does merit publication with some major and minor revisions.

Major revisions:

Although the authors state that the definition of young is ill defined in the literature, it is clearly showed that the incidence of colon cancer above 50 years of age increases substantially. I believe that a subgroup analysis comparing clinico-pathological and survival analysis comparing groups of patients above and below 50 years of age will be beneficial for the paper and will make more clinical sense to the average reader. Statistical significance of a comparison of 7 age groups does not really tell the reader which groups are significantly different and is hard to interpret.

For example, although the p-value is significant for cause specific survival in table 2, we can’t really tell for which group it is indeed significantly different. CCS is practically the same over the different age groups in 1, 3, and 5 year CCS.

The core of the paper is table 4a that describes a multivariate analysis for survival of the operated patients, corrected for several prognostic factors such as site, age, staging, grading and LN resected. In my opinion this is poorly discussed in the paper and definitely merit a thorough description and analysis. Furthermore the table describes hazard ratios with its respective CI and p values, I am not sure that it fits the purpose of this table, but perhaps a thorough discussion will shed some light on the matter.

I believe that in order to include all of the patients in the statistical analysis many subgroups included “unknown” or “other” variables. This has no added value and even confuses and bias the statistical analysis and in my opinion should be removed from the analysis.

A thorough statistical review is needed.
Minor revisions:

Language editing is needed

The last paragraph of the result section (page 9, line 146-151) is incomprehensible and needs rephrasing.

Thank you very much for the opportunity to review this paper.

**Level of interest:** An article of importance in its field

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

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

**Declaration of competing interests:**

I declare to have no competing interests of any kind.