Reviewer’s report

Title: Computed Tomography Volumetry of esophageal cancer - The role of Semiautomatic assessment

Version: 1 Date: 25 Jun 2018

Reviewer: Anders Sundin

Reviewer’s report:

General points:

Unfortunately, this manuscript is not well prepared. I get the impression that the authors have been in a hurry to submit the paper and this shows in the preparation of the manuscript. Many references are old.

There is just one reference (17) from 2006 in the manuscript to support the key point of the study that the morphological tumour volume is important for the outcome of radio-chemotherapy. Are there additional up to date references to support this? The references on FDG-PET/CT are from 2007 and 2010 which is quite some time ago.

Current research is focusing on the metabolic tumour volume on FDG-PET/CT rather than the morphological tumour volume on CT and the metabolic response as crucial factors for the outcome and recently MRI including DWI has also come into focus in these regards. Why is this not included at least in the discussion?

Detailed points:

Methods:

How were the patients selected? Which inclusion criteria were used? Consecutive patients?

Why 2007-2012? Why not more recent examinations?

"Arterial and venous phase" is mentioned on Page 6 line 12 and also on line 18. (Delete one).

Page 7, line 9: What was/were the reason/s for the wide HU range 0-1000? Was there any part of the tumour that during contrast-enhancement measured more than 200HU?

Is this wide range necessary for the calculation? Please explain!

More details needs to be supplied to understand how this was performed.
Results

Page 8, Line 8-9. Was not a visible tumour on CT an inclusion criterium?

The full data needs to be shown (See also below comments regarding Table 1)

Why not use the well-established Cohens kappa test to assess reader agreement?

Why not use the Bland-Altman plot to assess differences between the two methods to quantify tumour volume?

Was tumour histopathology (adenocarcinoma vs squamous cell carcinoma) a factor that mattered in the precision of the volume assessment?

Discussion

What has been performed in this area are using MRI? Including DWI?

Table 1.

According to the Materials & Methods section there were 23 patients. Now in the table 41?

According to the Materials & Methods section transverse 2,5 mm section were reconstructed/reformatted. There is no need to show that there were 0 patients with 3, 5, 7, 8 mm sections and no need to include this info in the table since it has already been mentioned.

At bottom of the table what does "Unknown 3 1" mean?

With as few as 23 patients there should be a table for all patients (23 rows) showing the measured volumes for both readers and both methods (4 columns). Exchange Table 1 for such a table and for each patient include the information on patient characteristics (at least age, sex), tumour histopathology, tumour stage and tumour localization in this new table.

Figure legend to figure 1.

"Axial" should be "transverse" or "transaxial"

Which delineation has been used (manual or semiautomatic? Is it not interesting to include a figure 1B the show result for the other delineation method in the same patient!?

Figure legend to figure 2.
What is the indicated in the bars?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Unable to assess

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Unable to assess

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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