Reviewer's report

Title: The impact of 18F-FDOPA-PET/MRI image fusion in detecting liver metastasis in patients with neuroendocrine tumors of the gastrointestinal tract

Version: 1 Date: 31 Jan 2020

Reviewer: Anders Sundin

Reviewer's report:

The paper has improved and most of my criticism has on the whole been dealt with by the authors. Language revision is advisable.

It is difficult in the following comments to refer to page numbers since they are lacking!

Background, lines 22-29: It is god that this sentence is added. It should best be inserted after the sentence line 15 ending with "[3]" and change the word "carcinoid" to "NEN".

Also, you need to add something regarding grade 1, 2 and 3 NENs, preferably by putting this information into the next sentence, for example with the wording:

"According to the WHO classification, neuroendocrine neoplasms (NENs) are, based on their KI-67 index, divided into grade 1-3 (G1≤2%, G2 3-20%, G3>20%) and G3 NENs are distinguished from neuroendocrine carcinomas by the level of histological differentiation, with NETs being well differentiated and neuroendocrine carcinomas (NECs) poorly differentiated."

Next page, line 2: Be consistent with British English spelling (analogue, labelled etc)

Line 47-57: Please rephrase this sentence and mention 68Ga-DOTA-SSAs and FDOPA before FDG because they are primarily used, since the vast majority of NEN patients have G1-2 NETs in whom FDG has a minor role (except in a few rich centres that perform PET/CT with both 68Ga-DOTA-SSA and FDG)
Discussion, line 60: "In fact, the use of F-18-FDG should be limited to poorly differentiated G3 tumors."

This is perhaps a little too strict statement. Many centres perform PET/CT with FDG in patients with G2 NETs with ki-67 index &gt;15%. Other centres also add PET/CT with 68Ga-DOTA-SSA in these patients. Rich centres even perform both 68Ga-DOTA-SSA and FDG in all G2 and G3 patients.

I would therefore suggest rephrasing the sentence to for example: "The use of F-18-FDG-PET/CT is usually limited to patients with high G2 and G3 tumors. Some centres perform PET/CT with both 68Ga-DOTA-SSA and FDG in all patients with G2-3 tumours because of the prognostic information achieved from tumour FDG positivity versus negativity."

Next page, line 1-2 "The real problem...."

This sentence can be deleted.

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

Yes

**Does the work include the necessary controls?**
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