Reviewer's report

Title: Expression of centromere protein F (CENP-F) associated with higher FDG uptake on PET/CT, detected by cDNA microarray, predicts high-risk patients with primary breast cancer

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Reviewer: Emmanuelle Jauffret

Reviewer's report:

Ueda et al reported the identification and study of 2 molecules differentially expressed between groups of breast cancers that respectively display high and low standardized uptake value (SUV) using FDG PET/CT. They validated using RT PCR the different mRNA level of CENP-F and CDC6 between both groups and by immunohistochemistry the overexpression of CENP-F in high SUV group of patients.

High CENP-F level in IHC is a bad prognostic marker in DFS and OS, and is CENP-F level is an independant prognostic factor of recurrence.

The data are interesting, but minor points need to be answered prior to publication:
1) as SUV is correlated to glucose metabolism, isn't it a problem to use N0 and N+ patients in the study? is the level of SUV the same in N0 and N+ patients?
2) are we sure that patient did not receive any chemotherapy before surgery? this point needs to be precised
3) does core biopsy modify the level of SUV? in that case, it as to be taken into account to compare level of SUV
4) What about the treatment conducted in the TMA population this population is used to calulate survival data and as CENP-F is in relation with cell cycle, it is more relevant to compare patients who had or not chemotherapy together
5) for the cDNA arrays: does the authors know if the hirearchical clustering of samples separate high and low SUV?
6) is there a correlation with molecular subtypes (Basal-like, luminal-like...) and SUV

In the genes overexpressed in high SUV, we can found "basal" genes (KRT5, ACTA1, COL7A1). is it possible to calculate this correlation?
what about the genes underexpressed? RE-related genes?
in that case, is CENP-F expression independant of molecular subtype?

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'