Author's response to reviews

Title: Association between CHEK2 H371Y Mutation and Response to Neoadjuvant Chemotherapy in Women with Breast Cancer

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Author's response to reviews: see over
Author's covering letter for initial submission

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Comments:

Editor

RE: “Association between CHEK2 H371Y Mutation and Response to Neoadjuvant Chemotherapy in Women with Breast Cancer” by Drs Yin Liu, Ye Xu, Tao Ouyang, Jinfeng Li, Tianfeng Wang, Zhaoqing Fan, Tie Fan, Benyao Lin, and Yuntao Xie

Dear Editor,

Please find the above original paper that I would like to submit to BMC Cancer for consideration of publication.

CHEK2 gene (Cell-cycle-checkpoint kinase 2, also known as CHK2) plays an important role in cell cycle regulation, apoptosis, and DNA repair. We previously found that the recurrent CHEK2 H371Y mutation is a novel pathogenic mutation that confers an increased risk of breast cancer in Chinese women (Liu, et al., Human mutation 2011). It would be interest to investigate whether breast cancer patients with CHEK2 H371Y mutation were more likely to respond to neoadjuvant chemotherapy.

In the current study, we screened the CHEK2 H371Y germline mutation in a
cohort of 2334 Chinese women with operable primary breast cancer who received neoadjuvant chemotherapy. Thirty-nine patients (1.7%) with CHEK2 H371Y germline mutation were identified in this cohort of 2334 patients. CHEK2 H371Y mutation carriers had a significantly higher pCR (pathologic complete response) rate than non-carriers (33.3% versus 19.5%, P = 0.031) in the entire study population, and CHEK2 H371Y mutation-positive status remained an independent favorable predictor of pCR in a multivariate analysis.

Our study indicates that CHEK2 H371Y mutation carriers are more likely to respond to neoadjuvant chemotherapy than are non-carriers. In addition, CHEK2 H371Y mutation may share some similarity to BRCA1 mutation, therefore, CHEK2 H371Y mutation carriers may be potential candidates for treatment with PARP1 inhibitors.

I hope you will find this paper being of interest for the BMC Cancer.

Yours sincerely,

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