TRANSLATIONAL CANCER RESEARCH

Peer Review File

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Reviewer A

Comment 1: The study by Lian et al attempt to expand our understanding of the clinicopathological characteristics associated with mucinous breast cancers. Generally speaking, there is nothing technically wrong with the current study. The presented findings are well-controlled and well-presented; they also support the major tenets of the study.

Unfortunately, the study and its conclusions are rather pedestrian and incremental primarily due to the fact that reports regarding mucinous breast cancers and their pathophysiology, clinicopathology, response to treatment, and overall survival rates are firmly established in the scientific literature. As presented, the current findings offer no new information to significantly advance the field or our understanding of this rare breast subtype.

Additionally, conclusions related to potential survival differences between mucinous breast cancer subtypes likely represent a “true, true, and unrelated” type of situation, such that the underlying survival differences noted herein may simply reflect the clinical course and aggressiveness of individual genetically distinct breast cancer subtypes. As such, some attempts to mechanistically validate the conclusion that mucinous subtypes are independent factors coupled to improved prognosis is warranted.

Reply 1: Thanks for your positive evaluation of our research and some suggestion for improvement. There are a few points here that I think it is necessary to explain for you. First of all, previous studies have shown that the favorable prognosis of mucinous breast cancer is due to its well biological behavior. However, our study used the propensity score matching method to match these confounding factors, and the result show that mucinous breast cancer is an independent predictor of prognosis. This has not been reported in previous studies. Furthermore, we see that ER + or PR + MBC still recommends only for endocrine therapy in the NCCN (V2. 2019) guidelines. However, as our study reported, the prognosis of patients with ER + PR- MBC is similar to IDC. It may suggest that ER + PR- MBC need further active treatment refer to the IDC.

Reviewer B

Comment 1: 1- In the article there aren't any references to the Luminal status (A vs B vs TNBC vs Her 2+) could be of worth to classify the four molecular sub-types, in the table 4 only the four different combinations of receptor status have been reported.'

Reply 1: Thanks for your suggestion of our research. There is one points that I think it is necessary to explain for you. The status of HER2 in the SEER database is only recorded for breast cancer patients diagnosed after 2010. Because of these patients accounted for a small proportion of our study population, we cannot subdivid into the four molecular subtypes for analysis.

Comment 2- the impact of adjuvant chemotherapy has been reported but not for the endocrine therapy, the authors explained that they failed to collect this important data, this should be better explained in the discussion. Also, the impact of trastuzumab adjuvant therapy in the 125 pts should be explained.

Reply 2: Thanks for your suggestion of our research. We have to explain that we failed to collect these data about trastuzumab adjuvant therapy in the 125 HER2-positive patients.