Reply to 'MUC4 staining in sarcomatoid carcinomas' by Berg et al.

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Received: 9 May 2018 / Accepted: 6 August 2018
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We appreciate Berg et al. for their study to replicate the findings of our study published in *Modern Pathology* [1]. They studied MUC4 expression in 6 sarcomatoid mesotheliomas and 13 sarcomatoid carcinomas of the lung and prematurely concluded its low applicability in differentiating sarcomatoid mesothelioma from sarcomatoid carcinoma of the lung. Their study also showed no MUC4 expression in all six cases of sarcomatoid mesothelioma, which is similar to our study. Regarding MUC4 expression in sarcomatoid carcinoma of the lung they found one case with diffuse expression, three cases showing focal expression, and nine cases with no expression. They have not given the detailed histology of their cases of sarcomatoid carcinoma. In our publication, we included and analyzed the MUC4 expression in 5 cases of spindle cell carcinoma, and 24 cases of pleomorphic carcinoma including the sarcomatoid (spindled cells) component. We found no expression of MUC4 in all five pure spindled cell types, but found most of the sarcomatoid component of pleomorphic carcinoma to have focal to diffuse expression. We agree with them to some extent about the staining of MUC4 in sarcomatoid carcinoma, provided if their cases were dominantly pure sarcomatoid type (spindle cell carcinoma). Further study of MUC4 expression in sarcomatoid carcinoma of the lung is

needed with more cases of pleomorphic carcinoma with spindled cell components.

Recently, we also studied and published the MUC4 expression as a useful immunohistochemical marker in differentiating epithelioid mesothelioma from both lung adenocarcinoma and lung squamous cell carcinoma [2]. The negative MUC4 expression has 100% specificity and 86% sensitivity to differentiate epithelioid mesothelioma from lung adenocarcinoma and squamous cell carcinoma.

We still believe MUC4 expression has applicability in differentiating sarcomatoid mesothelioma from sarcomatoid carcinoma of the lung, because the negative MUC4 expression has 100% specificity (supported by 100% specificity in the study of Kyra KB also), although the sensitivity has a discrepancy.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

References

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