Is there a role of breast pathologist in diagnostic challenges of discordances in ER, PR, and HER2 between primary breast cancer and brain metastasis?

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To the Editor,

I wish to congratulate Jung and their colleagues [1] for their study. They investigated the expression profiles of estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER2) in breast cancer brain metastasis (BCBM) and the existence of discordance between primary breast cancer and brain metastasis. A total of 37 patients underwent craniotomies for metastatic brain tumors. Receptor conversion in BCBMs was observed in over 50% of Korean patients, and HER2 conversion was observed in 23.8% of patients in this study. First of all, this study is retrospective analysis. As it is understood, tumors' pathology from primary breast cancer and brain metastasis were not re-studied by one specific breast pathologist. In clinical practice, this kind of analysis may be problematic if the the primary and metastatic tumors were reported by different pathologists, especially if they are not specifically experienced in breast pathology. For example, Price et al. [2] conducted a retrospective review of 100 randomly selected inter-institutional pathology consultations for breast cancer patients. The study cohort consisted of 93 cases that met the

inclusion criteria. Of these 93 cases, 6 had no discordance, 7 had discordance with no clinical impact, and 80 had discordance with potential for clinical impact. Therefore, a breast pathologist should revisit all pathologies both from primary breast cancer and brain metastasis to decrease interobserver variation of the pathological findings in the current study.

Compliance with ethical standards

Conflict of interest The author indicated no potential conflicts of interest.

References

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