

The current topics of surgical pathology of breast cancer in Japan

Takuya Moriya¹

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According to the recent advancement for the management of breast cancer patients, the role of pathological examination had been gradually changed, especially during these two decades.

First of all, breast-conserving surgery had been introduced. Assessment of surgical margin is quite important, and many Japanese pathologists are requested intraoperative consultation to evaluate margin status. In addition, the guideline by the Japanese Society of Breast Cancer (JBCS) recommend to perform 5-mm serial sections for resected breast tissue, and all cut surfaces should be pathologically examined to elucidate the extent of individual cancer. Second, sentinel lymph node biopsy became one of the standard methods for breast cancer treatments. Intraoperative frozen section diagnosis, imprint cytology or one-step nucleic acid amplification (OSNA) method is selected. Third, core needle biopsy is extensively employed as minimally invasive diagnostic procedure. As the pathologists have to make diagnosis by limited amount of tissue, some lesions may be reported to be indeterminate to obtain definitive diagnosis. Thus, the adequate sampling as well as careful histological examination is important.

Fourth, new WHO histological classification had been proposed in 2012. It is not exactly the same as the Japanese classification (by JBCS); therefore, the explanation for the compatibility of these two classifications should be done. In addition, the significance of Japanese classification

should be reviewed. Fifth, the analysis for several biomarkers is quite important, to assess the patients' prognosis, and in addition, to estimate the response for several standard medicinal therapies. Immunohistochemistry is the strong tool to obtain certain characteristics of tumor cells, relatively easily in any pathology laboratory. Multigene assay will be alternative procedure to know the exact character of tumor cells, but still there is a serious problem for its high cost. Finally, evaluation of the response for neoadjuvant therapy is necessary. We are aiming at pathological complete response, but precision of histopathological examination is fundamental to confirm good response.

In this special issue, three topics will be discussed, especially focusing into Japanese features. Prof. Tsuchiya and his colleagues reviewed the significance of the Japanese histological classification of breast cancer is quite unique, but it is strongly correlated with radiological images as well as cytological features, at least in part. Prof. Masuda overlooked role of biomarkers (markers using immunohistochemistry) on the current pathology practice for breast carcinomas. The significance of quality assurance will be including in the discussion. Dr. Horii and Dr. Akiyama will explain the procedure of histological assessment for therapeutic response, by the specific case presentations. These excellent reviews will be delightful to all surgical pathologists at their daily practice, and will be bound up some benefits for breast cancer patients.

✉ Takuya Moriya
tmoriya@med.kawasaki-m.ac.jp

¹ Department of Pathology, Kawasaki Medical School,
577 Matsushima, Kurashiki, Okayama, Japan