Histopathologic evaluation of breast specimens after neoadjuvant chemotherapy

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Neoadjuvant chemotherapy refers to chemotherapy administered before surgery and it is the standard treatment in locally advanced breast cancer. In the last decade the indications for neoadjuvant chemotherapy has broadened to include its use in the treatment of earlier stages of breast cancer with the aim to obtain tumor shrinkage and improve the rate of breast-conserving surgery. More recently, this treatment modality is increasingly used to obtain a quantifiable evaluation of sensitivity or resistance to chemotherapy. The potential of tumor response might also allow individualization of systemic treatments and the rapid assessment of new drugs. Furthermore, clinical trials in neoadjuvant setting are increasingly being utilized for the evaluation of new drugs and novel therapeutic strategies using pathological complete response, a surrogate marker for survival as the primary endpoint. Complete eradication of invasive tumor cells in the primary tumor bed following neoadjuvant therapy is strongly correlated with improved disease-free survival and overall survival. The excision or mastectomy specimens display a range of histopathologic changes after neoadjuvant chemotherapy. Appropriate specimen handling is essential to evaluate response to neoadjuvant chemotherapy and includes not only careful assessment of specimens but also requires correlation with clinical and imaging findings. There are different methods to quantitate residual tumor. In this presentation I would like to review methods to evaluate breast resection specimens after neoadjuvant chemotherapy, discuss the classifications systems of residual tumor burden and tumor biomarkers related to response to neoadjuvant chemotherapy.

Biography
Aysegul Sahin is an internationally recognized breast pathology expert who is a faculty member at M. D. Anderson Cancer Center since 1988. She received her Medical Doctor degree from University of Ankara in 1980, completed Anatomic and Clinical Pathology Residency at Oregon Health Science University, and did Surgical and Oncologic Surgical Pathology Fellowships at the University of Iowa Hospital and Clinics and the UT M. D. Anderson Cancer Center. Currently, she is the Section Head of Breast Pathology and Director of Education in the Department of Pathology and Breast Pathology Fellowship Program. She is also the Director of the Breast Tumor Bank. She is actively involved with clinical and translation research programs related to breast cancer. She has published over 310 peer-reviewed manuscripts on breast pathology especially on morphologic features of invasive and in-situ carcinomas, and high-risk lesions biomarkers of breast cancer progression, prognostic and predictive marker evaluations in breast cancer. She has also published multiple book chapters on pathology of breast lesions. She is an executive committee member of International Society of Breast Pathology and member of national and international pathology societies.

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