Correlation of Molecular and Morphologic Classification of Breast Cancer
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Technological advances over the past 2-3 decades have added a new dimension to assessment of breast cancer. In addition to morphologic classification of breast cancers, it is now expected that pathologists at least develop the ability to correlate the traditional classification with molecular based assessments as this could be particularly useful in management of the patients and introduction of novel therapies.

It is important to emphasize that there is continuous evolution of the molecular classification with novel approaches introduced by various investigators. Given the cost of molecular analysis it is also imperative to properly correlate the molecular and morphologic features to help extrapolate the potential molecular pathways that could be utilized as targets for therapy even if such analysis is not immediately available in some centers. It is also noteworthy that as more cancers are analyzed, it is becoming clear that breast cancers will not be divisible simply into four or five subtypes (luminal –A and B; basal; Her2 rich; normal breast-like)as initial studies had suggested. While ER, PR and HER2 status of the tumors, to an extent, correlate with some aspects of the molecular classification, there is no perfect matching with these markers alone. It is becoming clear that additional markers –ie Ki67 and AR- are necessary to improve the correlation.Furthermore, it is becoming apparent that to fully comprehend behavior of carcinomas, understanding the role of tumor associated stromal fibroblasts and tumor infiltrating lymphocytes – tumor microenvironment- is essential.

Finally, it is important for both molecular biologists and pathologists to have at least some understanding of the problems that may be associated with each classification as well as some comprehension of the alternate classification. At present, optimal patient management requires accurate morphologic classification, valid marker assessment and at least some molecular analysis for identification of targets for therapy.