

عنوان مقاله:

Adenoid Cystic Carcinoma of Breast: A Review of Molecular Markers to Elucidate its Cancer Biology

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خلاصه مقاله:

Background: Adenoid cystic carcinoma (ACC) of breast is a rare type of breast cancer, which belongs to the triple-negative breast cancer associated with aggressive behavior and poor prognosis. Despite being classified as triple-negative breast cancer, ACC of breast is an indolent subtype with good biological behavior, less aggressive course, good response to treatment and clinical outcomes. It has generally a good overall survival with no propensity for metastasis. Thus, a correct diagnosis could be of great importance for providing proper and adequate treatment. **Method:** Published literature was reviewed to determine differentially expressed genes that could be used as biomarkers for this disease and to elucidate the biology and carcinogenesis of ACC of breast according to this genetic profile. **Results:** Several genes were differentially expressed and were found to belong to a wide range of biological processes. The most prevalent genetic alteration is a gene translocation that produces the MYB-NF1B fusion gene and the overexpression of MYB, which initiates tumorigenesis. This crucial genetic aberration is the hallmark of adenoid cystic carcinoma. The rest of the genes are involved in cell proliferation, apoptosis, stable epithelial phenotype, tumor suppression, and keeping an intact basement membrane, evasion of epithelial-mesenchymal transition, and prevention of metastasis. **Conclusion:** This gene expression is responsible for various biological processes that reflect the biology of ACC of breast with an indolent course and good clinical outcomes. This genetic profile impacts biomarker research and could be used to refine patient diagnosis and selection for appropriate and less aggressive treatment options.

کلمات کلیدی:

Adenoid cystic carcinoma, Breast, Biomarkers, Review

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