

Adjuvant Treatment Decision-Making in Premenopausal Patients with Early-Stage Luminal A Breast Cancer

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Breast cancer biomarkers have both prognostic and predictive value and play a crucial role in determining individualized treatment strategies. The greatest therapeutic dilemma remains in premenopausal patients with early-stage Luminal A breast cancer, particularly when deciding between adjuvant chemotherapy and endocrine therapy, balancing the risk of overtreatment against undertreatment.

We present two cases of 43-year-old premenopausal patients diagnosed with right-sided invasive ductal carcinoma (pT1aN0M0, G3, Luminal A subtype). Both patients underwent mastectomy with axillary dissection. Immunohistochemical analysis in both cases showed high estrogen (ER 80–85%) and progesterone receptor expression (PR 90–95%), HER2-negative status (1+), Ki-67 of 15%, and negative p53.

In the first case, a multigene assay (MammaPrint) was performed, demonstrating low metastatic risk and supporting the decision to omit chemotherapy. The patient received dual endocrine therapy (LHRH analogue plus aromatase inhibitor) and achieved progression-free survival of 41 months.

In the second case, due to financial limitations, no multigene assay was performed. Treatment decisions were based solely on clinicopathological characteristics. The patient was also treated with dual endocrine therapy and has achieved disease-free survival of 60 months, remaining under active surveillance.

These cases highlight that multigene assays provide significant prognostic and predictive information in selected patient populations. However, in resource-limited settings, careful evaluation of traditional clinicopathological parameters remains essential for individualized treatment planning. Proper risk assessment ensures optimal therapeutic decisions while avoiding unnecessary toxicity.

Keywords: breast cancer, Luminal A, multigene assay, adjuvant therapy, premenopausal patients