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The androgen receptor as a surrogate marker for molecular apocrine breast cancer subtyping.

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Abstract

The Androgen Receptor (AR) is a potential prognostic marker and therapeutic target in breast cancer. We evaluated AR protein expression in high-risk breast cancer treated in the adjuvant setting. Tumors were subtyped into luminal (ER+/PgR±/AR±), molecular apocrine (MAC, [ER-/PgR-/AR+]) and hormone receptor negative carcinomas (HR-negative, [ER-/PgR-/AR-]). Subtyping was evaluated with respect to prognosis and to taxane therapy. High histologic grade ($p < 0.001$) and increased proliferation ($p = 0.001$) more often appeared in MAC and HR-negative than in luminal tumors. Patients with MAC had outcome comparable to the luminal group, while patients with HR-negative disease had increased risk for relapse and death. MAC outcome was favorable upon taxane-containing treatment; this remained significant upon multivariate analysis for overall survival (HR 0.31, 95%CI 0.13-0.74, interaction $p = 0.035$) and as a trend for time to relapse ($p = 0.15$). In conclusion, AR-related subtyping of breast cancer may be prognostic and serve for selecting optimal treatment combinations.