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Anti-EGFR (cetuximab) combined with irinotecan for treatment of elderly patients with metastatic colorectal cancer (m-CRC)

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Purpose: This study was conducted to test the efficacy and toxicity of cetuximab and irinotecan as a biweekly regimen in treatment of elderly patients with metastatic colorectal cancer (m-CRC).

Patients & Methods: 49 elderly patients (≥ 65 years) with m-CRC who progressed after at least one previous line of treatment were enrolled into this study from May 2008 to January 2011. All recruited patients received cetuximab 500 mg/m² and irinotecan 180 mg/m² every 2 weeks.

Results: 37 patients (76%) were men and 76% of patients had colonic cancer in origin. Median age was 69 years. Median overall survival time was 7 months and median progression-free survival was 4 months. Grade 3-4 skin rash occurred in 20% of patients, grade 3-4 diarrhea in 18% of patients and neutropenia in 28% of patients.

Conclusion: Cetuximab combined with irinotecan when administered biweekly is safe and effective for treatment of pretreated elderly patients with m-CRC.

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Peroxiredoxin-I & stromal thioredoxin-1 as novel prognostic biomarkers in breast cancer

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Introduction: Cancers stem cells (CSC) are resistant cancer phenotype. This may be due to a defensive mechanism in order to survive under hypoxic conditions within niches with low ROS and confer chemo-resistance. CSC defensive mechanism may include increased expression of endogenous antioxidant systems, regulation of hypoxia responsive signaling and efflux transporter systems to protect the CSC from oxidative damage. Here, we examine the relationship between key endogenous antioxidants (Prx-I and Trx-1), CSC transporter protein (ABCG2), a hypoxia marker (HIF-1 α) and a potential breast CSC marker (ALDH1A3) in breast cancer stem cell niches using clinical resections tissue micro arrays.

Methods: Using immunohistochemistry (IHC), 556 breast tumor specimens in formalin fixed paraffin blocks were used to construct tissue microarrays (TMA) from 556 patients recruited to two different breast cancer studies (MoBCaT and BREACAST). The following markers Prx-I, Trx-1, HIF-1 α , ABCG2 and ALDH1A3 were evaluated by IHC. The relationships between these markers and the histopathological parameters of the tumor and clinical characteristics of patients were analyzed.

Results: High expression of Prx-I and Trx-1 were associated with poor prognostic markers including high grade, worse NPI status and higher tumor stage. Prx-1 and stromal Trx-1 showed an association with 5-year patient survival ($p=0.04$; $p=0.011$). High levels of Trx-1 were correlated with high Prx-I expression. There were correlations between ABCG2 and each of the markers investigated. However, no association was found between these markers and ALDH1A3+ tumors.

Conclusion: Prx-I and stromal Trx-1 are associated with patient survival and can be used as prognostic markers in breast cancer. ABCG2 expression is associated with other markers investigated in this study. These relationships may be reflections of the concerted protective mechanisms in which tumor cells over express anti-oxidant response, hypoxia related proteins and efflux pumps to reduce ROS levels and prevent further damage within breast CSC microenvironment.

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