Marta Szajnik, J Cancer Sci Ther, 3:7
doi: http://dx.doi.org/10.4172/1948-5956.S1.14

OMICS Group Conferences
Accelerating Scientific Discovery

International Conference & Exhibition on
Cancer Science & Therapy
15-17 August 2011 Las Vegas, USA

Overexpression of 17beta hydroxysteroid dehydrogenase type 12 (hsd17b12) correlates with poor prognosis in ovarian cancer

Marta Szajnik

Poznan University of Medical Sciences, Poland

Introduction: There is growing evidence for the role of 17β-hydroxysteroid dehydrogenase (HSD17B) in the pathogenesis and development of various hormone-dependent carcinomas. The aim of the study was to correlate HSD17B isoform 12 (HSD17B12) expression with clinicopathologic outcome in patients with ovarian cancer and to determine its role in growth and progression of this tumor.

Methods: Tumor specimens from 100 untreated patients with ovarian cancer were evaluated for HSD17B12 by immunohistochemistry and correlated with clinicopathologic characteristics, patient outcome and 5 year follow-up. Ovarian carcinoma cell lines OvCa, A2780 and AD10 were used in this study. Since A2780 OvCa cell line expressed the highest level of HSD17B12, this cell line was used for further studies. siRNA knockdown of the enzyme was performed and its effects on tumor cell proliferation and Annexin V binding were determined.

Results: HSD17B12 expression was observed in all tumor samples, but the staining intensity was variable. Normal ovarian epithelium was negative. Patients with tumor showing weak/moderate expression of HSD17B12 had a better overall survival than those with strongly positive tumors ($p<0.001$). The time to first recurrence was longer for patients with tumors with heterogenous staining relative to patients with tumors that were uniformly positive ($p<0.001$). Upon silencing of HSD17B12, tumor cell growth was inhibited ($p<0.005$), and apoptosis of tumor cells increased ($p<0.05$). Arachidonic acid but not estradiol reversed the growth inhibition mediated by HSD17B12 knockdown.

Conclusion: The overexpression of HSD17B12 is an independent marker of poor survival in patients with OvCa and might be considered the potential target for immunotherapy. Expression and function of this enzyme are essential for OvCa progression.

Biography

Marta Szajnik, MD PhD MPH graduated from Poznan University of Medical Sciences, Poznan, Poland in 2004 and completed her PhD in 2007. She also carried out postdoctoral studies at the University of Pittsburgh Cancer Institute from 2007-2009. She is currently a 2nd year resident in ObGyn at the Department of Gynecology Oncology in Poznan University of Medical Sciences in Poland and continues her research on ovarian cancer immunology in the collaboration with Dr. Theresa L. Whiteside from the University of Pittsburgh Cancer Institute. Dr. Szajnik has co-authorized 18 papers published in peer-reviewed journal. In 2011 she received Scholar-in-training award of the American Association for Cancer Research during the annual meeting in Orlando, FL. She is the Principal Investigator of the ovarian cancer research grant of the Polish Ministry of Sciences and Higher Education.