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Original Article

Role of SOX9 protein in ovarian carcinoma: A molecular insight

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Background and objectives: Ovarian carcinoma is one of the most lethal carcinomas among females. Its high prevalence and shorter 5-year survival rate is due to the fact that most of the cases are diagnosed at later stages. This highlights the importance of early diagnosis through reliable biomarkers. We studied the diagnostic role of SOX9 protein in ovarian carcinoma and its diagnostic ability. The primary objective was to compare the level and clinical relevance of SOX9 protein in the tissues of patients with ovarian carcinoma with non-malignant ovarian tissues.

Methods: Tissue levels of SOX9 protein were estimated in the study and control groups (60 each group). SOX9 levels were compared between the study ***vs.*** control groups and also between high grade and low-grade ovarian cancer. SK-OV3 ovarian adenocarcinoma cell line was used as supportive evidence to prove the presence of SOX9 in malignant ovarian cells.

Results: Levels of SOX 9 protein (3.9±2.7 ng/mL) were high in tissue of ovarian cancer patients when compared to non-malignant (1.5±1.1 ng/mL) ovarian tissues. Higher levels of SOX 9 protein were found in tissues of ovarian cancer patients when compared to non-malignant ovarian tissues. The mean of SOX 9 levels in tissues of high-grade serous carcinoma was 3.5±2.5 ng/mL as compared to 1.0±0.9 ng/mL in low-grade serous carcinoma.

Interpretation and conclusions: SOX9 appears to be an important player in the molecular tumourigenesis of ovarian cancer, particularly in high grade tumours.

Keywords Malignant; Ovarian cancer; SOX9; Tissue lysate; Tumour marker