Expression of Programmed Cell Death Ligand 1 (PDL1) and XIAP in Chinese Esophagus Squamous Cell Carcinoma Patients

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BACKGROUND: Esophageal cancer is the sixth most common cancer and the fourth leading cause of cancer-related death in China. Over 80% of esophagus cancer are esophageal squamous cell carcinoma (ESCC) in China. Till now there is no target therapy for ESCC patients. Anti-PD1 therapy has showed promising results in several types of cancers. In order to understand the possibility of anti-PD1 therapy and its relationship with apoptosis in ESCC patients, we analyzed the expression of PDL1 and XIAP in Chinese ESCC patients by immunohistochemistry in microarray tissue.

EXPERIMENTAL DESIGN: We retrospectively collected 157 ESCC patients who received resection in our cancer center. Immnunohistochemistry was performed on 4 um thick sections from the Tissue microarrays (TMAs) blocks. Both PDL1 and XIAP were scored according to intensity of cytoplasmic staining of tumor cells: no staining (0), weak staining (1+), moderate staining (2+), and intense staining (3+). Analysis of immunohistochemistry was carried out by two independent observers who were blinded to any prior information on clinic pathological features of the patients' samples. If there was difference between these two observers, these slides were reinvestigated by both investigators using a multiheaded microscope. All of statistical analyses were performed using the Intercooled Stata 13.0 (Stata Corporation, College Station, TX). Statistical significance was set at two-sided $P < 0.05$. The Kaplan-Meier method was used to estimate the 5-year overall survival. All patients provided written informed consent. Study approval was obtained from independent ethics committees at Cancer Center of Sun Yat-Sen University. The study was undertaken in accordance with the ethical standards of the World Medical Association Declaration of Helsinki.

RESULTS: The positive rate of PDL1 and XIAP were 55.41% (87/157) and 51.59% (81/157), respectively. There was no relationship between PDL1 expression and clinical features. The XIAP positive expression had a positive correlation with TNM stage and PDL1 expression. Both PDL1 and XIAP expression were independent prognostic factors in ESCC patients. The median survival for patients with PDL1 positive and negative was 16 and 54 months, respectively, $P<0.001$. Patients with XIAP positive had a significantly poorer median survival than negative patients, 17 vs 55 months, $P<0.001$.

CONCLUSIONS: Our present study provides the rationale for developing immunotherapy by targeting PD1 in ESCC patients. Moreover, the finding of positive correlation between PDL1 and XIAP is helpful for us to understand the relationship between PDL1 and apoptosis.