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PD-L1 Expression in Esophageal and Gastroesophageal Junction Carcinoma, Correlation with the Immune Infiltrate - Preliminary Study

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Abstract
Background: Although traditional management for esophageal and esogastric cancer has been improved, survival at 5 years is still low, and immunotherapy could be a way to improve it. In addition to the predictive value of the response to immunotherapy, PD-L1 also has a known prognostic value. We aimed to evaluate the immunohistochemical expression of PD-L1, CD8+ T-cell, and CD4/CD25+ T-cell (Tregs) infiltration and their relationship in esophageal and gastro-esophageal junction carcinoma.
Material and Methods: Endoscopic biopsies were analyzed in 14 patients with esophageal cancer or esogastric junction, before starting the neoadjuvant treatment, hospitalized from the period 2019-to 2021 in the St. Mary's Clinical Hospital, Bucharest. Immunohistochemical tests were performed to investigate the expression of lymphocyte intratumoral infiltrate markers.
Results: Of the 14 cases, 13 (93%) were male, and 1 (7%) were female. Histological, 4 cases were adenocarcinomas, and 10 cases were squamous cell carcinomas. 10 cases showed epithelial PD-L1 positivity (78%). Using a quantitative evaluation of PD-L1 we obtained a statistical correlation between the median values of this marker with the expression of CD8. There was obtained a statistical correlation between PD-L1 positivity and low expression of CD4 or CD4+/CD25 T cells.
Conclusions: PD-L1 is expressed in tumors with higher CD8+ T cell densities and lower CD4/CD25 positive cells (Tregs), indicating that the good prognosis of PD-L1-positive tumors could be due to the inhibition of CD4 / CD25-positive cells (Tregs) rather than the stimulation of CD8-positive T cells, by an adaptive immune resistance mechanism.
Key words: PD-L1, Esophageal cancer, CD8+T cells, TREGS, tumor microenvironment