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spectrophotometrically measured in the serum superoxide dismutase (SOD), sulfhydryl (SH) groups, advanced oxidation protein products (AOPP), malondialdehyde (MDA), pro-oxidant–antioxidant balance (PAB), and superoxide anion (O2−) and calculated Prooxidative Score, Antioxidative Score, and Oxy Score as a comprehensive index of oxidative stress status. Serum protein levels of SLFN11 and PD-L1 were determined using the ELISA method. **Results:** The SLFN11 protein levels were significantly higher in the serum of patients who died during the first year of follow-up (p=0.041). On the other hand, measured redox status parameters, calculated scores, and PD-L1 protein levels did not differ significantly among living patients and those who died during the first year of follow-up. **Conclusion:** The SLFN11 protein levels may harbor prognostic potential in patients with CRC. Since this is, to our best knowledge, the first study to evaluate SLFN11 concentrations in the serum of CRC patients by the ELISA method, further studies need to validate this result in an independent patient cohort.

Keywords: colorectal cancer, oxidative stress, SLFN11, PD-L1

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Interleukin-6, a potential plasma biomarker for diagnosis and prognosis of thyroid neoplasms

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Background: Thyroid neoplasms include benign tumors – thyroid adenoma (TA), and malignant tumors of various histological types: papillary thyroid carcinoma (PTC) – the most common and usually indolent, anaplastic thyroid carcinoma (ATC) – the most aggressive, and several other types such as follicular, medullary and poorly differentiated. Despite the progress in understanding the epidemiology and genetic landscape of thyroid tumors, the diagnosis, prognosis and treatment approach require further improvement. Interleukin-6 (IL-6) is a pro-inflammatory cytokine with a central role in the regulation of immune and inflammatory responses including autoimmune thyroid diseases. Studies have revealed a potential impact of IL-6 in the development, progression and control of thyroid cancer. The aim of this study was to provide novel aspects for the preoperative differential diagnosis and/or prognosis of thyroid cancer. To achieve this, we assessed the circulating levels of IL-6 in patients with benign and malignant thyroid tumors of various histotypes, compared them with healthy volunteers, and correlated the results with clinicopathological parameters. **Patients and Methods:** The study included 43 patients with benign or malignant thyroid tumors, surgically treated at the Center for Endocrine Surgery, Clinical Center of Serbia. IL-6 protein levels were determined in plasma samples by quantitative ELISA. Parametric and nonparametric statistical tests were used for data analysis. **Results:** IL-6 concentrations in patients with either TA or carcinoma (PTC, ATC) were significantly higher compared to the healthy volunteers (Mann Whitney test). The highest concentrations were detected in ATC patients (Median±SD 15.97±0.71 pg/mL), being significantly higher compared to TA and PTC (2.14±1.34 pg/mL and 1.96±2.12 pg/mL, respectively). In PTC microcarcinoma, IL-6 was higher compared to controls, but there was no significant difference compared to other PTC or TA (Mann Whitney test). The correlation analysis with clinicopathological parameters in PTC patients revealed a trend towards the association of increased IL-6 plasma levels with the presence of nodal and distant metastases. No other significant associations were found. **Conclusion:** Patients with thyroid adenoma or carcinoma have increased plasma IL-6 levels that are in proportion with the aggressiveness of the thyroid tumor, suggesting that IL-6 might be a candidate biomarker for diagnosis and prognosis of thyroid neoplasms.

Keywords:biomarker, blood plasma, interleukin-6, thyroid neoplasms