

13. TROP-2 EXPRESSION IN PAPILLARY THYROID CARCINOMAS



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Introduction. Papillary thyroid carcinoma (PTC) represents the most common primary malignant thyroid lesion. As the diagnosis of PTC could be challenging in some cases and borderline nuclear features could be seen in some benign lesions, trophoblast cell surface antigen-2 (Trop-2) is proposed to help make the correct diagnosis. Trophoblast cell surface antigen-2 (Trop-2) is a glycoprotein that was first described as a membrane marker of trophoblast cells and was associated with regenerative abilities.

Aim of study. Evaluating of Trop-2 expression in papillary thyroid carcinomas

Methods and materials. We studied the data of the scientific medical literature, identified by the Google Search search engine, from the databases: PubMed, Cochrane, Scopus, international clinical guidelines, NCCN, and ESMO.

Results. Trop -2 has been reported to be overexpressed in various human carcinomas and is suggested to be a prognostic marker. Our findings in data of a distinct membranous staining pattern of TROP-2 in 90% of papillary thyroid carcinomas on expression on tissue microarray sections and none of the benign thyroid lesions suggested the potential diagnostic utility of TROP-2 in the classification of thyroid neoplasms. The immunohistochemistry results in different experiments further showed that the positive expression rate of TROP2 protein in PTC was ~70%, while the positive expression rate of TROP2 protein in adjacent tissues was ~35%. TROP-2 showed ~90% sensitivity ~98% specificity~ 95% and ~93% accuracy.

Conclusion. TROP2 was found to be highly expressed in PTC and promoted the proliferation, invasion and migration of PTC. TROP-2 shows high specificity and better accuracy than other markers.

Keywords. Papillary thyroid cancer (PTC), Trop-2, lesion.