

MIRNA EXPRESSION IN PAPILLARY THYROID CARCINOMA TISSUE

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Background. MicroRNAs (miRNAs) play a crucial role in the development and progression of papillary thyroid cancer (PTC), the most common thyroid malignancy. They are small non-coding RNAs that regulate gene expression post-transcriptionally and are involved in key cellular processes as cancer formation.

Objective(s). We aimed to identify dysregulated miRNAs expression in potential association with papillary thyroid carcinoma (PTC) development by microarray analysis on both tumoral and normal thyroid tissue.

Materials and Methods. 24 patients were included in the study. RNA was isolated from thyroid tissue using Trizol (Life Technologies). miRNA microarray analysis was performed using miRNA Complete Labelling and Hyb Kit and SurePrint G3 Human miRNA r21 Array Kit (Agilent). Feature Extraction v11.0 and Agilent GeneSpring GX v14.5 were used for data extraction and analysis.

Results. The analysis identified 242 miRNAs upregulated and 28 miRNAs downregulated in tumors vs their normal counterpart tissues, with an absolute fold change $|FC| > 2$. Top-ten up-regulated miRNAs are: hsa-miR-221, hsa-miR-181, hsa-miR-222, hsa-miR-146, hsa-miR-34, hsa-miR-744, hsa-miR-324, hsa-miR-424, hsa-miR-135, hsa-miR-141 and downregulated miRNAs are: hsa-miR-630, hsa-miR-5703, hsa-miR-663, hsa-miR-6510, hsa-miR-486, hsa-miR-575, hsa-miR-6858, hsa-miR-6850, hsa-miR-214, hsa-miR-4634. Target genes for these miRNAs are involved in regulation of biological, cellular or metabolic processes, cell death, response to stress and response to hypoxia.

Conclusion(s). Our analysis showed a clear differentiation of miRNA expression in tumoral tissue vs normal thyroid tissue by miRNA microarrays. These results lead to further research for a reliable biomarkers panel for diagnosis and prognosis in patients with papillary thyroid carcinoma.

Keywords: miRNA, biomarkers, papillary thyroid carcinoma, thyroid.

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GLUCOSE IS NOT ALWAYS THE ANSWER: A CASE OF AUTO-BREWERY SYNDROME

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Background. Auto-Brewery Syndrome (ABS) is a rare metabolic disorder characterized by the endogenous production of ethanol through the fermentation of ingested carbohydrates in the gastrointestinal tract, causing intoxication-like symptoms. It is often linked to high-carb diets, antibiotics, liver issues and stress.

Objective(s). ABS is clinically important because it can mimic alcohol use disorder and trigger lactic acidosis. Early, accurate diagnosis is critical to avoid misdiagnosis and ensure timely intervention.