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KRÜPPEL LIKE FACTOR 4 AND HEAT SHOCK PROTEIN 27 AS POTENTIAL CANCER BIOMARKERS

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Lung and laryngeal cancers are among the prevalent human cancers worldwide and no molecular markers are presently used for predicting prognosis in these cancer. Prognostic stratification of larynx and lung cancer patients based on molecular prognostic tumour biomarkers would definitely lead to a better clinical management of this malignancy. Krüppel-like factor 4 (KLF4) and heat shock protein 27 (HSP27) play a crucial role in tumorigenesis and are expressed in a wide range of malignancies. They have been considered as promising candidate biomarkers for some cancers. However, their role in larynx and lung carcinoma remains to be elucidated. Our recent studies showed a differential expression of KLF4 between normal tissue and each of the lung cancerous types. A significant decrease of KLF4 expression was observed in the non-small cell lung carcinoma (NSCLC) when compared to normal tissue, while a significant over expression was detected in the small cell lung carcinoma (SCLC). A higher rate of expression was observed in stages II, III and IV diseases compared to stage I in NSCLC tissues. The protein and mRNA expression levels of KLF4 were significantly decreased in larynx squamous cell carcinoma (LSCC) compared with normal tissue, whereas HSP27 was significantly overexpressed in tumor tissues compared with normal tissues, at the protein and mRNA levels. KLF4 expression decreased gradually with tumor progression whereas HSP27 expression increased. A significant difference was observed between stages I and IV. KLF4 and HSP27 exhibit opposite functions and roles in the carcinogenic process of LSCC. The role of KLF4 and HSP27 in laryngeal and lung cancers initiation and progression emphasizes their use as potential future targets for prognosis and treatment. KLF4 and HSP27 expression levels may act as potential biomarkers in patients with larynx and lung cancers.

Biography

Elie Hadchity has completed his PhD from Claude Bernard University Lyon1, France and he is serving as an Associate Professor at the Lebanese University, Faculty of Sciences and Faculty of Medicine. He leads a research team named, Antitumor Therapeutic Targeting and his research work focused on the identification of novel therapeutic targets and novel biomarkers. He has published several papers in reputed journals and has an International Patent.

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