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Expression of microrna-101 in formalin-fixed paraffin - embedded samples of nasopharyngeal carcinoma (Article)

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Abstract

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Nasopharyngeal carcinoma (NPC) is among the five most common malignancies in Malaysia. Most NPC patients are diagnosed at late stages of the disease which complicates the clinical management of the patients. Identification of new reliable biomarker is crucial to improve early diagnosis of NPC and increase the survival rate of patients. Recent study found that microRNAs (miRNAs), particularly miR-101, were involved in the tumorigenesis of head and neck cancer where NPC samples were included in the study. This study was conducted to observe the expression of miR-101 in NPC tumour tissues and compare its consistency with previous study as a step towards finding the new biomarker for NPC. The biopsy samples were obtained from hospitals and verified histologically using hematoxylin and eosin method for tissue classification. Total RNA was extracted from NPC tissues and normal nasopharyngeal epithelium tissues. The expression of miR-101 in NPC was quantified using quantitative polymerase chain reaction (qPCR) method. The differential expression of miR-101 in NPC as compared to normal nasopharyngeal epithelium tissues was analysed using $2^{-\Delta\Delta CT}$ calculation. The significance of the differential expression was analysed using SPSS software. Five samples have been verified as NPC and three samples were normal nasopharyngeal epithelium. The differential expression calculation found that miR-101 was downregulated in NPC as compared to normal nasopharyngeal epithelium tissues, which consistent with previous study. However, the differential expression was not significant. Therefore, our finding provides a preliminary result towards embarkment of a larger and comprehensive study.

SciVal Topic Prominence

Topic: MicroRNAs | Carcinoma, Squamous Cell | Carcinoma ESCC

Prominence percentile: 89.732

Author keywords

Diagnostic biomarker | Formalin-fixed paraffin- embedded samples | MicroRNA expression | MiR-101 | Nasopharyngeal carcinoma

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