## **Gastric cancer**

## Pathogenesis

Gastric cancer (GC) is a malignant tumor with a significantly high mortality rate, yet, its pathogenesis is not fully understood. Bioinformatics predicted that LINC01224 is highly expressed in stomach adenocarcinoma (STAD), and showed that LINC01224 adsorbed miR-193a-5p to target CDK8. Therefore, a study by Sun et al. intended to verify the effect of the LINC01224/miR-193a-5p/CDK8 axis on the biological behavior of gastric cancer.

Expressions of LINC01224, miR-193a-5p, CDK8, apoptosis-, and EMT-related genes were analyzed using the GEPIA website, RT-qPCR, in situ hybridization, and Western blot as needed. Bioinformatics and Dual-luciferase reporter assay were used to evaluate the relationship between LINC01224, miR-193a-5p, and CDK8. Functional experiments and rescue experiments (MTT assay, flow cytometry, wound healing assay, and Transwell) was conducted to detect the effects of the above genes on the biological characteristics of GC cells. A tumorigenesis assay was used to verify the results of in vitro experiments.

LINC01224 adsorbed miR-193a-5p to target and upregulate CDK8. The expressions of LINC01224 and CDK8 were increased, while the expression of miR-193a-5p was decreased in GC. Overexpressed LINC01224 promoted cell viability, migration and invasion, accelerated tumor formation, attenuated apoptosis, inhibited the expressions of apoptosis-related proteins, and promoted the expressions of EMT-related proteins, whereas silenced LINC01224 led to the opposite effect. MiR-193a-5p inhibitor partially offset the effect of silenced LINC01224; interestingly, siCDK8 significantly reversed the effect of miR-193a-5p inhibitor on GC cells.

LINC01224 affects the biological behavior of gastric cancer by mediating miR-193a-5p to regulate CDK8<sup>1)</sup>.

This retrospective study aimed to investigate ethnic disparities in demographic, clinicopathologic, and biological behaviours of gastric cancer (GC) in a high GC incidence area of China. There were 5022 GC patients, including 3987 Han (79.4%) and 987 Hui (14.4%) patients from Northwest China. All patient data were retrieved from 2009 to 2017. Median survival was estimated using the Kaplan-Meier method and compared using the log-rank test. A Cox proportional hazards model was used to assess the impact of covariates. Similarly, low 5-year OS rates were observed in both the Hui and Han groups (23.8% and 24.2% respectively). Hui patients with stage T1 or N0 or with tumours <5 cm had 2.144-fold, 1.426-fold and 1.305-fold increased risks of poor prognosis compared with Han patients with these characteristics respectively (all p < 0.05). Further, Hui patients had 1.265-fold, 1.364-fold and 1.401-fold increased risks of poor prognosis compared with Han patients in the prognosis of GC patients in Northwest China. Understanding the effects of ethnicity on GC will guide reasonable evaluations of prognosis and future interventions to equalise access to high-quality care for GC patients of different ethnicities in China <sup>2</sup>.

## Gastric cancer intracranial metastases

Sun H, Yan J, Tian G, Chen X, Song W. LINC01224 accelerates malignant transformation via MiR-193a-5p/CDK8 axis in gastric cancer. Cancer Med. 2021 Feb;10(4):1377-1393. doi: 10.1002/cam4.3726. PMID: 33655711. 2)

Cao J, Chen J, Zhang Q, Wu J, Wang W, Zhang X, Zhao D, Zhang Q, Yang W, Chen Z. Ethnic disparities in demographic, clinicopathologic and biological behaviours and prognosis of gastric cancer in northwest China. Cancer Med. 2020 Oct 20. doi: 10.1002/cam4.3551. Epub ahead of print. PMID: 33084161.

From: https://neurosurgerywiki.com/wiki/ - Neurosurgery Wiki

Permanent link: https://neurosurgerywiki.com/wiki/doku.php?id=gastric cancer



Last update: 2024/06/07 02:54