Medical Xpress

A breakthrough in gastric carcinogenesis

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Checkpoint with forkhead and ring finger (CHFR) is a mitotic stress checkpoint gene whose promoter is frequently methylated in various kinds of cancer. In gastric cancer, CHFR promoter hypermethylation has been reported to lead to chromosome instability (CIN) and genetic instability is one of the hallmarks of human cancer.

A research team led by Dr Eiji Oki from Kyushu University examined the methylation status of the promoter region of CHFR and microsatellite instability (MIN) status in primary gastric cancers. Their study will be published in the *World Journal of Gastroenterology*

They investigated the promoter methylation of CHFR in 59 cases of gastric cancer using methylation-specific PCR. Five microsatellite loci were analyzed using high-intensity microsatellite analysis reported previously, and p53 gene mutations were investigated by direct sequencing.

They found that twenty cases (33.9%) showed promoter methylation and no relation was observed with the clinicopathological factors. The promoter methylation of CHFR was frequently accompanied with MIN. Seven of 20 (35.0%) cases showed MIN in hypermethylation of the CHFR tumor, while three of 39 (7.7%) cases showed MIN in the non-methylated CHFR tumor (P

In conclusion, they demonstrated a correlation between the hypermethylation of CHFR and the MIN of gastric cancer patients. Both MIN and CHFR hypermethylation induce mitotic check point disruption

and confer a survival advantage to the cells, however, this survival advantage does not lead to either p53 mutation or CIN in gastric cancer.

This is the first study to show the striking relationship between CHFR silencing and microsatellite alteration in gastric cancer.

Source: World Journal of Gastroenterology (news : web)