

Expression of gelatinases in gastric cancer and superficial gastritis

April 8 2010

A research team in Mexico, led by Dr. Clara Luz Sampieri from the Institute of Public Health of Veracruzana University investigated genetic expression of MMP2 and MMP9 in gastric tumor and gastritis tissues using a population from Mexico. They observed a significantly increased expression of MMP9 in tumor tissues, but not in superficial gastritis.

Gastric cancer in Mexico is the most frequent gastrointestinal malignant neoplasm. Several precursor conditions, such as chronic gastritis, have been associated with the development of gastric cancer. The gelatinases MMP-2 and MMP-9, members of the metalloproteinase family, are fundamental enzymes in extracellular matrix remodelling. The extracellular matrix is composed of secreted molecules outside cells which provides structural support and regulates cell behaviour.

The matrix metalloproteinase family is a group of 24 enzymes in humans that degrade components of extracellular matrix. The gelatinases comprise MMP-2 (gelatinase A) and MMP-9 (gelatinase B), both of which cleave several components of the extracellular matrix.

A research article to be published on March 28, 2010 in the *World Journal of Gastroenterology*. The authors reported that MMP9 expression is enhanced in gastric cancer compared to normal [gastric mucosa](#); also they found no differences in MMP2 and MMP9 expression between superficial gastritis and normal tissue. This is important because gene expression profiles allow characterization of differentially expressed genes and those are considered key determinants of cellular

behavior. Knowledge about differences in gene expression profiles between normal gastric mucosa, precursor conditions and [malignant tissue](#), is central to elucidating regulatory pathways involved in [cancer development](#) and progression. Future research efforts of this team are directed to profiling all members of the matrix metalloproteinases family in larger groups of Mexican patients with gastritis and [gastric cancer](#).

More information: Sampieri CL, de la Peña S, Ochoa-Lara M, Zenteno-Cuevas R, León-Córdoba K. Expression of matrix metalloproteinases 2 and 9 in human gastric cancer and superficial gastritis. World J Gastroenterol 2010; 16(12): 1500-1505
www.wjgnet.com/1007-9327/full/v16/i12/1500.htm

Provided by World Journal of Gastroenterology

Citation: Expression of gelatinases in gastric cancer and superficial gastritis (2010, April 8)
retrieved 26 April 2024 from
<https://medicalxpress.com/news/2010-04-gelatinases-gastric-cancer-superficial-gastritis.html>

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