Expression and nuclear localization of Snail, an E-cadherin repressor, in adenocarcinomas of the upper gastrointestinal tract.

Abstract:
Transcriptional E-cadherin down-regulation can be mediated by Snail, a zinc finger transcription factor. To be able to examine nuclear Snail immunoreactivity in archival human cancers, we established a monoclonal antibody against the purified human Snail protein. The specificity of the selected rat antibody Sn9H2 was demonstrated by Western blot analysis using extracts from different cell lines and by immunofluorescence and immunohistochemistry of primary tissues. Subsequently, a series of 340 adenocarcinomas of the upper gastrointestinal tract, including tumours from the oesophagus (n=154), cardia (n=102) and stomach (n=84), arranged in tissue microarrays, were examined for Snail expression and were correlated to E-cadherin expression and clinico-pathological parameters. Nuclear Snail immunoreactivity was seen in 27 tumours (7.9%) and tended to be more frequent in oesophageal adenocarcinomas (11.1%) than in cardiac (6.9%) or gastric (3.6%) carcinomas (p=0.0428). In 35% of the Snail-positive cases, E-cadherin immunoreactivity was lost. No correlation was found for nuclear Snail expression and tumour grade, Lauren's classification, WHO classification, tumour stage and tumour size. The pattern of Snail expression observed with our new hybridoma, Sn9H2, which is currently the only antibody that reacts with...
endogenous nuclear (active) Snail, suggests only a minor role of Snail in tumours of the upper gastrointestinal tract.