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Titel des Beitrags:
Substance P and Neprilysin in Chronic Pancreatitis

Abstract:
Background/Aims: We aimed to analyze substance P (SP) and neprilysin (NEP), the membrane metallopeptidase that degrades SP, in chronic pancreatitis (CP). Methods: SP and NEP mRNA levels were analyzed by qRT-PCR in tissue samples from 30 patients with CP and 8 organ donors. In addition, SP serum levels were determined before and after surgery in the same patients, by means of a competitive ELISA assay. Genetic and epigenetic analyses of the NEP gene were also performed. Results: SP mRNA expression levels were higher in CP tissues compared to controls (p = 0.0152), while NEP mRNA showed no significant differences between CP and healthy subjects (p = 0.2102). In CP patients, SP serum levels correlated with those in tissue, and after surgical resection SP serum levels were reduced compared to the preoperative values. Failure of NEP to overexpress in CP tissues was associated with significant miR-128a overexpression (p = 0.02), rather than with mutations in the NEP coding region or the presence of hypermethylation sites in the NEP promoter region. Conclusion: Tissue and serum levels of SP were increased in CP, while NEP levels remained unaltered. In an SP/NEP-mediated pathway, it would appear that NEP fails to provide adequate surveillance of SP levels. Failure of NEP to overexpress could be associated with miRNA regulation.