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Meeting abstract

Potential role of nociceptin and nocistatin in central regulation of gastric mucosal defense

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Nociceptin (NOC) and Nocistatin (NS) are two neuropeptides derived from pre-pro-nociceptin. NOC is the endogenous ligand of the NOP receptor which exhibits marked structural analogy with opioid receptors. NOC has been reported to exert multiple effects in the gastrointestinal tract. The aims of this study were to compare the gastroprotective effects of NOC and NS and to analyse the mechanism of their gastroprotective action. Gastric mucosal damage was induced by acidified ethanol in rats. The compounds were given i.c.v. Both NOC and NS (0.2–5 nmol/rat) induced gastroprotective effects. Pre-administration of NS significantly decreased the effect of NOC, as well as the competitive antagonist J-113397 (70 nmol/rat) and vagotomy. The effect of both neuropeptides was reduced by naloxone (27 nmol/rat), naltrindole (4.8 nmol/rat), norbinaltorphimine (10 μg/rat) and β-FNA (20 nmol/rat). In conclusion, both NOC and NS initiate centrally a series of events which result in gastric mucosal defense. The gastroprotective effect of NOC and NS is likely to be mediated by endogenous opioids and conveyed to the periphery by a vagal-dependent mechanism.

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