

Attenuation Of Behavioural Signs Of Colitis In Rats By Synthetic Peptide Analogue Of Thymulin (PAT)

Background and aims: Thymulin and its synthetic analogue PAT have been shown to exert powerful anti-inflammatory and anti-hyperalgesic effects in various animal models of inflammatory hyperalgesia (1,2). This effect, has been shown to be partly mediated via the potentiation of the α -7 nicotinic receptor (2). In this study, we investigated the effects of PAT on a rat model of colonic inflammation and compared the results to other anti-inflammatory and analgesic drugs.

Methods: Different groups of rats (n=6) received intracolonic injections of capsaicin (0.2 ml capsaicin 0.1%), which produced behavioural signs related to colitis. Behavioural manifestations were assessed, according to a standard method of scoring made of 5 scales (0-4), A 0 score indicating normal behaviour and 4 a significant contraction of the abdomen and extension of both hind limbs. Intracolonic capsaicin was preceded by i.p. injections of saline, PAT (0.2, 1, and 5 μ g), morphine (4 mg/kg) or meloxicam (5 mg/kg), and their respective effects were observed over a period of 30 min following colon irritation.

Results: Capsaicin produced nociceptive behaviour that peaked at 10-15 min with an average score of 2.3 ± 0.2 ($P < 0.01$, when compared to intracolonic injection of saline in sham rats). Pretreatment with PAT (0.2 and 1 μ g) produced significant reduction of behavioural scores as compared to saline. These effects of PAT (1 μ g) were comparable to those of morphine (2 mg/kg) and slightly more potent than those of meloxicam (2 mg/kg).

Conclusion: The observed potent effects of PAT in this animal model of visceral pain can be attributed to the established anti-inflammatory action of this peptide.

Safieh-Garabedian B et al. (2002) *Br. J. Pharmacol.* **136**: 947-955.

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