Effect of tadalafil on chronic pelvic pain in two types of rat nonbacterial prostatitis model□

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Tadalafil has recently been reported to improve the International Prostatic Symptom Score and total National Institutes of Health Chronic Prostatitis Symptom Index score of patients with benign prostatic hyperplasia with chronic pelvic pain syndrome (Nishino et al., *Hinyokika Kiyo* 2017 **63**:101-105). We therefore investigated the effect of tadalafil on chronic pelvic pain, which is a hallmark of chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS), and the inflammatory changes in two types of rat CP/CPPS model: experimental autoimmune prostatitis (EAP) and prostatitis induced by 17 β -estradiol treatment combined with castration (hormone/castration-induced prostatitis; HCP) (Okamoto et al., *The Prostate* 2018 **78**:707-713; Kurita et al., *The Prostate* 2018 **78**:1157-1165; Yamaguchi et al., *The Prostate* in press). In the EAP model, we observed inflammation in the ventral prostate, while in the HCP model we observed inflammation in the lateral prostate. Consistent with previous studies, pelvic pain was observed in the EAP model. In addition, we found for the first time that HCP led to a significant increase in pelvic pain. Repeated treatment with tadalafil attenuated the pelvic pain and prostatic inflammation in both models. We observed that tadalafil would exhibit its pain attenuation effect through its anti-inflammatory action in the inflamed prostate.