



PS / KCl INDUCED BLADDER INFLAMMATION

A MODEL FOR PAINFUL BLADDER SYNDROME (INTERSTITIAL CYSTITIS)

MODEL

Cystometry in anesthetized animals after PS / KCl exposition.

Intravesical infusion of protamine sulfate and KCl in rodents produces bladder inflammation and bladder hyperreflexia mimicking some pathological features of human Painful Bladder Syndrome (PBS) also known as interstitial cystitis.

SPECIES

Rat

INTEREST

- This model is suitable for testing compounds for effects on the increased frequency and decreased bladder capacity associated with PBS.
- This model is often used as secondary model to the isovolumetric model.
- Compounds that show a positive response in this model include a Rho Kinase inhibitor (Y-27632), pentosan polysulfate and liposomes.

MODEL DESCRIPTION

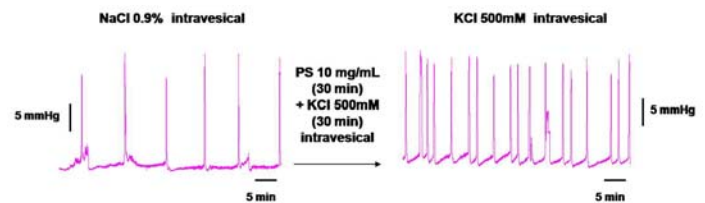
- Cystometry was performed in anesthetized female rats.
- Intravesical infusion of NaCl 0.9% was performed followed by intravesical infusion of PS and KCl.
- Test compounds can be administered *via* various routes (i.v., i.p., p.o., s.c. or by osmotic pumps) and cystometric parameters evaluated for up to two hours post-administration.

PARAMETERS EVALUATED

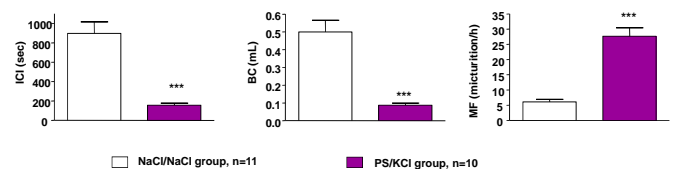
- Bladder capacity
- Intercontraction intervals during continuous cystometry
- Micturition pressure
- Micturition volume
- Basal intravesical pressure
- Threshold pressure for micturition

SCIENTIFIC PUBLICATIONS

- Rajasekaran M et al., Urology. 69 (4):791-4, 2007.
- Tyagi P et al., BJU Int. 101 (5):627-32, 2008.
- Tyagi P et al., BJU Int. 104 (11):1689-92, 2009.



Typical recordings in rats with intravesical NaCl 0.9% and with PS/KCl.



Effects of intravesical infusion of PS/KCl on inter-contraction interval (ICI), bladder capacity (BC) and micturition frequency (MF) in anesthetized female rats.

***p<0.001 versus basal period, unpaired Student t-test