PS / KCl induced bladder hyperactivity

A MODEL FOR INTERSTITIAL CYSTITIS / BLADDER PAINFUL SYNDROME (IC/BPS)

Model

Cystometry in anesthetized animals after PS / KCl exposition.
Intravesical infusion of protamine sulfate (PS) and KCl in rodents produces bladder hyperreflexia mimicking some pathological features of interstitial cystitis/bladder pain syndrome (IC/BPS).

Specie

Rat

Interest

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

Model Description

- Cystometry is performed in anesthetized rats.
- Intravesical infusion of NaCl 0.9% is performed followed by intravesical infusion of PS (10 mg/mL) then KCl (500 mM).
- Test compounds can be administered *via* various routes (i.v., i.p., p.o. or s.c.) and cystometric parameters evaluated for up to two hours post-administration.

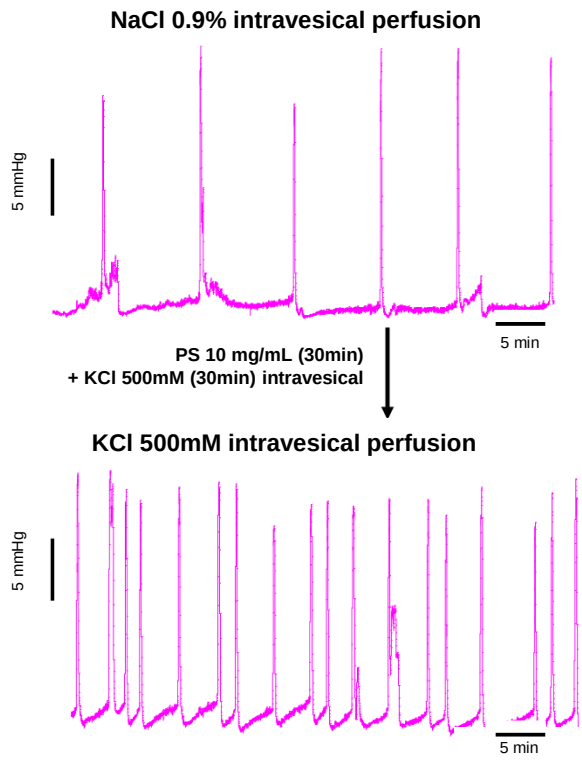
Parameters evaluated

- Evaluated parameters
- Bladder capacity
- Intercontraction intervals
- Micturition frequency
- Micturition pressure
- Micturition volume
- Basal intravesical pressure

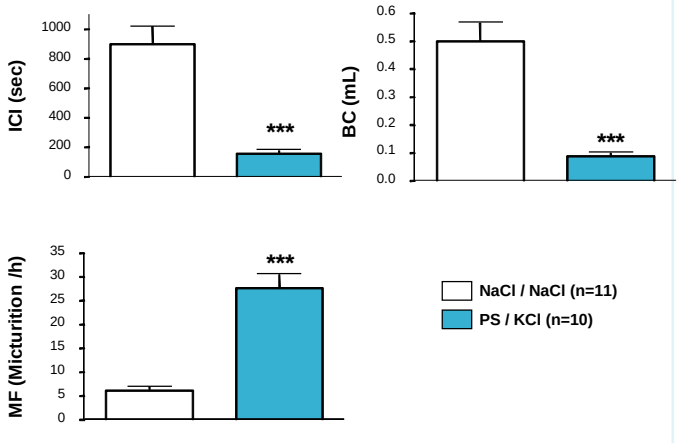
Scientific publications

- Rajasekaran M *et al.*, Urology. 69(4):791-4, 2007.
- Tyagi P *et al.*, BJU Int. 101(5):627-32, 2008.
- Bassi P.F *et al.* Eur. Urol. Suppl. 10(6):451-53, 2011.

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



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



***P<0.001 *versus* respective basal period.