**Introduction**

Spinal cord injury (SCI) results in bladder dysfunction. Epidural kilohertz frequency spinal cord stimulation (KHF SCS) modulates lower urinary tract function in intact rats: Intact → Increases in bladder capacity, voiding efficiency, and external urethral sphincter (EUS) EMG. Hypersensitive → Increases in voiding efficiency and EUS EMG amplitude + Decreases in the number of non-voiding contractions.

**Hypothesis:**

KHF SCS will ameliorate bladder dysfunction following SCI.

**Methods**

Stimulation
- Spinal Cord: (1 kHz, 5 kHz, 10 kHz)
  - (20, 40, 80%) MT
  - 10, 30, 50 Hz 80% MT
- Sensory Pudendal: 10 Hz 60%, 2T

Cystometry
- Number & Amplitude
- NW/Cs
- (2) Bladder capacity
- (3) Voiding efficiency
- EUS EMG
  - (1) Burst duration
  - (2) Activity
  - (3) Average Amplitude

**References**


**Summary**

After SCI:
- Tonic EUS activity causes increased bladder capacity, non-voiding contractions, and decreased voiding efficiency.
- KHF SCS decreases tonic EUS activity allowing for decreases in bladder capacity, non-voiding contractions, and increases in voiding efficiency.

Afferent feedback from the EUS is inhibitory?

**Conclusion**

Potential mechanism of action → modulating afferent input from the bladder/EUS

KHF SCS may be a viable approach to restore bladder function after SCI.

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