Ejaculation induced by electrical stimulation of the lumbar spinothalamic cells in anaesthetised rat

Objective:

To induce a complete ejaculatory response in the anaesthetised rat. In this model, physiological markers of the emission and expulsion phases of ejaculation induced by electrical microstimulation of the lumbar spinothalamic cells (LSt), the key component of the spinal generator for ejaculation, can be measured. Contractions of the vas deferens and the bulbospongiosus muscle are regarded as physiological markers of, respectively, emission and expulsion phases of ejaculation.

Summarized methodology:

Rats are anaesthetised with urethane or pentobarbital and intraluminal vas deferens (VD) pressure as well as bulbospongiosus muscle (BS) electrical activity (BS EMG) are monitored. For LSt microstimulation, an electrode is positioned in laminae VII-X (figure 1). Electrical stimulation protocol is adapted to the aim of the experimental investigation. Analysis of the recordings is performed a posteriori using custom-written routines in Elphy software (Sadoc, CNRS, Gif-sur-Yvette, France).

Endpoints:

- Latency, amplitude, duration and area under the curve of VD increases
- Latency, frequency, duration and area under the curve of BS contractions

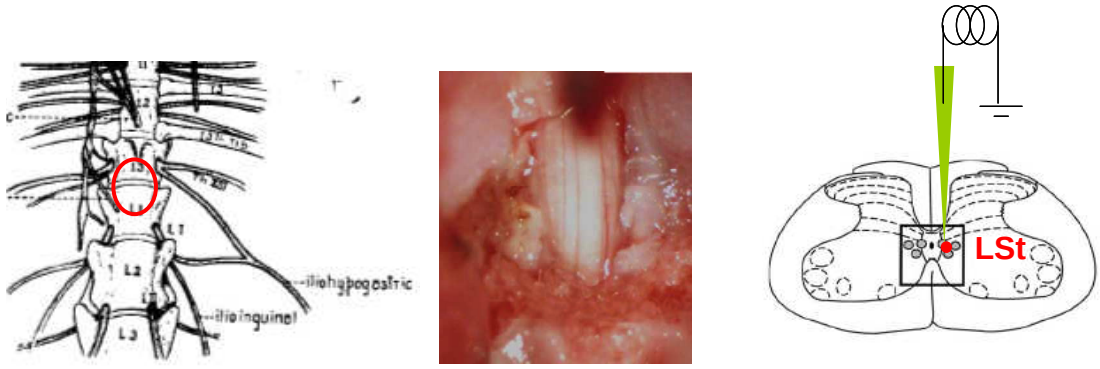

Figure 1: Location of the laminectomy for exposing lumbar L4 spinal segment and positioning of the electrode for stimulating lumbar spinothalamic cells (LSt) area in laminae X and VII.

Related Pelvipharm bibliography:

Clément, P. et al. **J Sex Med** (2010) : 7 (suppl 4):239 (ISSM 2010)

Borgdorff, AJ. et al. **Eur Urol** (2008) : 54:449-456

Links to applicable therapeutic areas / targeted disorders:

- Sexual pharmacology
  - * Ejaculatory Disorders