The testosterone-induced rat model of BPH presents an enlargement of the prostate sharing common characteristics with human BPH and thus allowing studies on the causative mechanism of BPH symptoms by specifically targeting the prostatic growth and its final consequences.

Pathophysiological features

Prostate features

The testosterone-induced rat model of BPH exhibits several common characteristics with the human pathology:

- Prostatic enlargement (Figure 1)

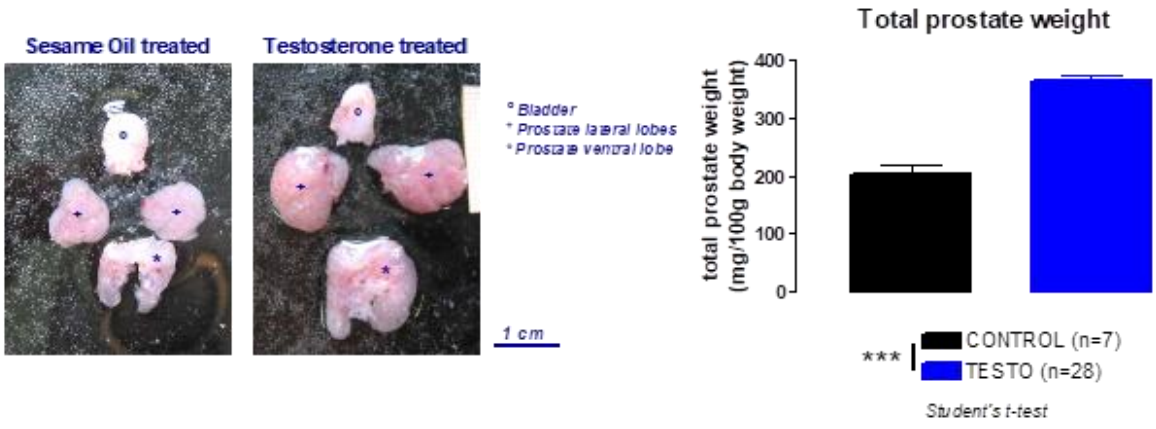

Figure 1: Evaluation of prostate enlargement induced by daily s.c. testosterone injections (3mg/kg during 3 weeks) (Pelvipharm, internal data)

- Both stromal and epithelial compartments proliferation (Figure 2)

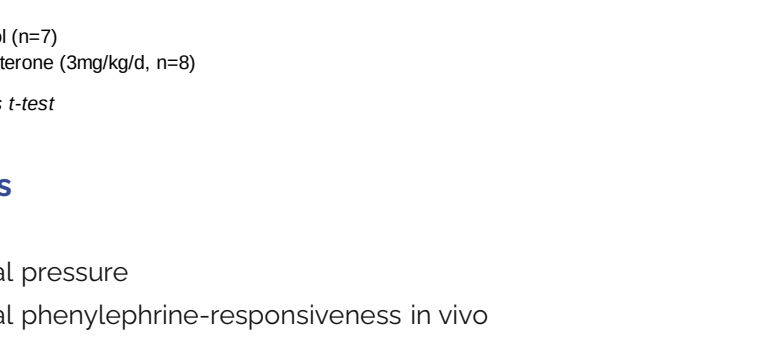

Figure 2: Representative microphotographs of rat prostatic lateral lobes stained with hematoxylin-eosin (HE) observed at x100 magnification in sesame oil (left panel) and testosterone (right panel) treated rats (3 weeks, 3 mg/kg/d) (Pelvipharm, internal data).

Bladder features

- Abnormal bladder function similar to that of patients with LUTS associated with benign prostatic hyperplasia: increase in bladder capacity, in maximal amplitude of bladder contractions and in residual volume, occurrence of non-voiding contractions.

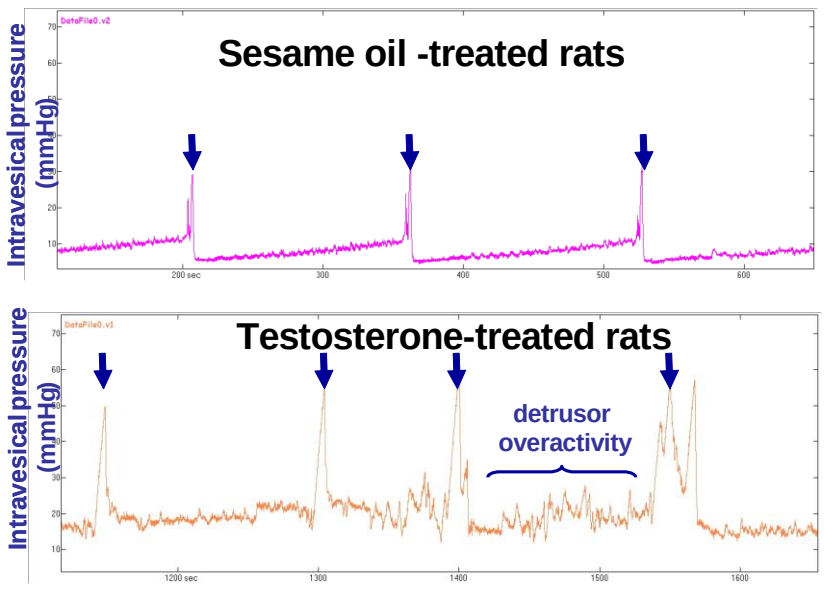

Figure 3: Representative cystometrograms in conscious testosterone vehicle-treated rats. (Pelvipharm, internal data).

- Bladder hypertrophy

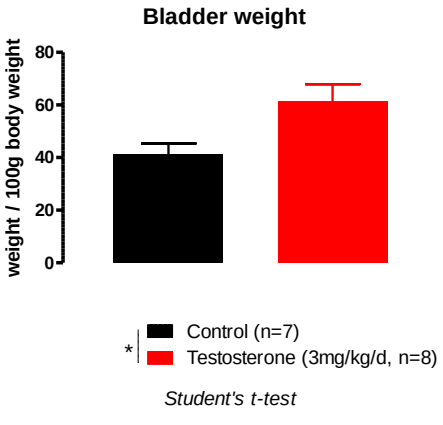

Figure 4: Bladder weight expressed in mg/mg of body weight in sham and testosterone-supplemented rats. (Pelvipharm, internal data).

Urethra features

- Increase in urethral pressure
- Increase in urethral phenylephrine-responsiveness in vivo

Related Pelvipharm bibliography:

Julia-Guilloteau V *et al.* **Eur Urol** (2006):5(2):119 (EAU, 2006)

NB: Pelvipharm will gladly study the feasibility to fit this experimental model to its client's needs.