association between extent of atrophy in prostate needle biopsies and serum prostate-specific antigen (PSA) levels (total, free or free/total ratio).

The study was based on 136 needle prostatic biopsies corresponding to 123 patients. The only diagnosis in all biopsies was focal prostatic atrophy without presence of cancer, high-grade prostatic intraepithelial neoplasia (HGPIN), suspicious for cancer, or prostatitis. The data were analyzed subdividing the patients into 2 groups: with free/total serum PSA ≥ 0.15 (Group 1, 61 biopsies), and with free/total PSA < 0.15 (Group 2, 75 biopsies). The extent of atrophy was evaluated considering either the absolute number or the percentage of cores showing the lesion. Polynomial regression or simple correlation were applied using in each analysis the most suitable function that best fitted to the distribution of the data.

Group 1: there was a positive and statistically significant correlation between extent of atrophy and either free ($p = 0.0076$ and $p = 0.0210$, respectively, for parabolic and linear functions) or free/total PSA ($p = 0.0068$ and $p = 0.0085$, respectively, for 4th degree and parabolic functions); no correlation was found for total PSA. Group 2: no significant correlation was found between extent of atrophy and free, total or free/total PSA.

Considering that age associated prostatic atrophy may be a manifestation of chronic ischemia due to local arteriosclerosis, the results suggest that chronic ischemia may be involved in free PSA serum level elevation in patients with several needle biopsies showing only prostatic atrophy and free/total PSA ≥ 0.15.

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INVESTIGATIVE UROLOGY

A dose-dependent dual effect of oestrogen on voiding in the male mouse?

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Objectives: To explore the effect of different degrees of oestrogenization on male voiding, by treating adult castrated and 5alpha-dihydrotestosterone (DHT)-maintained male mice with different doses of oestrogens, as exposure of male mice to excessive amounts of oestrogens can cause bladder outlet obstruction (BOO); in addition, male mice lacking oestrogen receptor (ER)alpha (ERKO) or ERbeta (BERKO) were studied to assess the importance of ER subtypes.

Materials and Methods: Castrated, DHT-maintained adult mice were treated with 17beta-oestradiol (E(2); 50 and 250 microg/kg) or oestrone (E(1); 5, 50 and 500 microg/kg) daily for 10 days. Control mice were treated only with the vehicle. BERKO and ERKO mice, and their wild-type littermates used as their controls, remained untreated. Under anaesthesia, the bladder and distal urethra were exposed to record simultaneously the bladder pressure and urinary flow rate from the distal urethra.

Results: E(2)-treated mice showed obstructive voiding, seen as increased bladder pressure, decreased average flow rate and prolonged micturition time. This was also evident when a high dose (500 microg/kg) of E(1) was used. After treatment with a dose of 50 microg/kg, the urodynamic variables were similar to those in the control mice. Surprisingly, after treatment with a low dose (5 microg/kg) all urodynamic variables improved. There was a minor increase in the bladder pressure in BERKO mice; ERKO mice had a significantly lower urinary flow rate.

Conclusions: High doses of oestrogens caused BOO in castrated, DHT-maintained male mice. A small dose of E(1) had a positive effect on voiding, suggesting that oestrogens are needed for normal male voiding. Reduced urinary flow rates in ERKO mice suggest that oestrogen effects on voiding are mediated at least partly via ERalpha.

Editorial Comment

Previous investigation using neonatal DES treatment demonstrated that vesical smooth muscle contractility was not significantly affected (1). However, our results (2) showed that neonatal DES led to a significant vesical extracellular matrix remodeling, which is in line with reports using infravesical surgical obstruction (3,4). Thus, neonatal DES may be an adequate vesical obstruction model, at least with regard to extracellular matrix changes.

The results of the present well done investigation suggest that the effects of estrogens may be dual and dose-dependent. The authors confirmed the obstructive effect of high doses of E_2 in adult castrated male mice maintained with DHT. On the other hand, when the mice were treated with the low dose of E1 the variables measured showed no sign of obstructive voiding. The ERKO mice had lower urinary flow rates and the BERKO mice had a higher mean bladder pressure than their wild-type littermates used as controls. As conclusion, the authors proposed that apart of high doses of estrogens determine obstruction; estrogens may be also needed for normal voiding of the male mouse.

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Anatomical risks of transobturator suburethral tape in the treatment of female stress urinary incontinence

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Eur Urol. 2005; 48: 793-8

Introduction: The objective of this study was to define the anatomical structures crossed by transobturator tape.

Materials: Ten fresh, female anatomical subjects aged 74 to 89 years.

Methods: Transobturator tape was inserted by outside-in way. The position of the tape was verified by perineal and abdominal dissection.

Results: Transobturator tape has a transverse course. It crosses the adductor muscles close to their pubic insertion and passes over the inferior border of the obturator foramen by crossing the obturator membrane, before reaching the middle plane of the perineum after having crossed the obturator internus muscle. The tape passes above the internal pudendal pedicle and then under the levator ani muscle, under the tendinous arch of the pelvic fascia and continues in the middle third of the urethrovaginal septum. It avoids femoral and obturator vessels in the thigh and pudendal vessels in the perineum.

Conclusion: The anatomical course of transobturator tape shows that the anatomical structures crossed by the tape are muscle and fascia and, when the technique is performed correctly, no major neurovascular structures are in contact with the tape.

Editorial Comment

All versions of Tension-free Vaginal Tape present a risk of vesical, vascular, or intestinal lesions. Alternatively, a new transobturator approach has been proposed. Doctor Vincent Delmas, well-known anatomist and urologist, after studying 10 female subjects, presented a thorough study on the course of transobturator tape and identified the anatomical problems encountered. The author concluded that from an anatomical standpoint, the transobturator tape is much safer than any retropubic tape techniques. I strongly recommend carefully read of this paper for all surgeons involved with urethropexy for treating stress urinary incontinence.

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UROLOGICAL ONCOLOGY

Interobserver discrepancy using the 1998 World Health Organization/International Society of Urologic Pathology classification of urothelial neoplasms: practical choices for patient care

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Purpose: Morphological classifications designed by experts to stratify neoplasms according to biological potential must define categories that are reproducible among practitioners or the schemes actually create the