mal cells membrane and apocrine glandular epithelial cells membrane. There was also ER beta cell membrane staining in the basal and suprabasal epithelial cells and fibroblasts in the lamina propria.
Conclusions: Established ER presence allows the consideration of the introitus of the vagina as a target for oestrogen therapy in various clinical and surgical situations. Continuing elucidation of the immunohistochemistry of this external genital tissue might assist in the development of molecular tools to treat genital abnormalities. Details of this immunohistochemistry may also advance the understanding of the effects of sexual differentiation on the brain and other organ systems.

Editorial Comment

These interesting findings confirm our believe that labia minora and other vulvar tissues are estrogen target structures. It is our practice to administer local estrogen for treating labia minora fusion and other vulvar diseases in pre-pubertal, pre-menopausal and post-menopausal women. Also, the present data enable us to expect a greater estrogen effect when administered vaginally, compared with extravaginal administration, as the authors stated. These findings are of clinical importance in the pathophysiology of age-associated and hormonally associated female genital disorders that include both functional and structural changes.

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RECONSTRUCTIVE UROLOGY

Open surgical repair of ureteral strictures and fistulas following radical cystectomy and urinary diversion

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Purpose: Open surgery after cystectomy can be a challenge. We report the incidence of postoperative urinary diversion-enteric fistula and ureteral strictures in patients undergoing radical cystectomy, and discuss the diagnosis and management of these complications, including our surgical approach to these patients.
Materials and Methods: We preformed a retrospective review of 553 patients undergoing radical cystectomy and urinary diversion for bladder cancer between April 1999 and January 2007. Patients in whom a ureteral stricture or fistula developed were identified by serial laboratory and imaging evaluations. A chart review was preformed to identify symptoms, time to stricture or fistula development, radiological findings, type of diversion, estimated blood loss and whether the original anastomosis was stented. Management and outcomes were assessed.
Results: Of 553 patients reviewed ureteral stricture developed in 41 (7.4%) with a mean followup of 20.2 months (range 1 to 98). Strictures developed in 11% (31 of 272) of the orthotopic ileal neobladder, 2.5% (6 of 236) of ileal conduit and 8% (4 of 45) of Indiana pouch cases. Open repair led to an overall success rate of 87%. Urinary diversion-enteric fistula developed in 12 (2.2%) of the 553 patients with a mean followup of 28.4 months (range 3 to 94), all of whom had undergone orthotopic neobladder diversion. No patient had recurrence after surgical repair of the fistula.

Conclusions: Open revision remains the gold standard management for ureteral strictures and urinary diversion-enteric fistulas occurring after radical cystectomy. The addition of the chimney modification to the orthotopic neobladder facilitates surgical repair.

Editorial Comment

Distal and anastomosis uretral strictures occurring after a cystectomy, following a myriad of diversion techniques, is not uncommon. Most likely these problems should be performed primarily in the old fashion way, that is open. In the hands of an experienced endoscopic surgeon the endoureterotomy using a laser can reach a 25% success rate in selected cases as Msezane et al. demonstrated in their retrospective analyzed data.

Sometimes the blood parameters are less sensitive than the follow-up using ultrasound for the upper urinary tract; therefore, we perform both (1). Similar to the presented data we saw the incidence of strictures in ureters in different types of diversion. In addition to those who underwent previous radiation, the placing of an 8F double-J intra-operative might help to reduce the implantation stenoses further (2). Early surgery in our clinic usually involves the re-implantation of both ureters at the same time which we believe helps to avoid further complications. The occurrence of fistulas as reported is a rare case but might be handled with tissue glue if the fistula is small enough before an open surgery is performed (3). The possibilities are more extensive for the majority of cases, however, in the case of urinary diversions, we should be ready to perform open surgery for both cases - strictures and fistulas.

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Randomized comparative study between buccal mucosal and acellular bladder matrix grafts in complex anterior urethral strictures

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Purpose: Urethral strictures have been a reconstructive dilemma for many years due to the limited availability of tissue substitutes and incidence of recurrence. Buccal mucosal grafts have been a favored material in instances where penile skin is unavailable due to its durability and excellent graft survival. Recently collagen based matrices derived from the bladder have been used successfully in patients with stricture disease and hypospadias.

We performed a randomized comparative study to assess the outcome of the acellular bladder matrix compared to buccal mucosa in patients with complex urethral strictures.
Materials and Methods: Human demineralized bone matrix, obtained from cadaveric donors, was processed and prepared for use as an off-the-shelf material. Thirty patients with stricture 21 to 59 years old (mean 36.2) were enrolled and assessed using a standard protocol. The stricture length ranged from 2 to 18 cm (mean 6.9), of which 11 patients had bulbar, 7 had pendulous and 12 had combined bulbo-pendulous strictures. Of the 30 patients, 7 had received no previous intervention while the remaining 23 had undergone 1 to 7 procedures (mean 1.9). All patients were randomized and alternatively assigned to receive either buccal mucosa or demineralized bone matrix and underwent an onlay procedure.
Results: All patients except 2 who were lost during followup were followed for 18 to 36 months (mean 25). In patients with a healthy urethral bed (less than 2 prior operations), the success rate of buccal mucosa grafts (10 of 10) was similar to the bladder matrix grafts (8 of 9) in terms of patency. In patients with an unhealthy urethral bed (more than 2 prior operations), only 2 of 6 patients with a bladder matrix graft were successful, whereas all 5 patients with a buccal mucosa graft had a patent urethra. Postoperative uroflowmetry showed significant voiding improvement in both groups. Histology of the graft biopsies showed normal urethral tissue characteristics.
Conclusions: This study demonstrates that the use of acellular bladder matrix is a viable option for urethral repair. Demineralized bone matrix as an off-the-shelf biomaterial achieves the best results in patients with a healthy urethral bed, no spongio-fibrosis and good urethral mucosa.

Editorial Comment

In recent publications, we have seen the reporting of various off-shelf materials for urethral reconstruction (1,2). Different to the previous publications, the authors compared their shelf material "acellular bladder matrix" against the golden standard of the buccal mucosa graft.

As we all know in the almost virgin wound bed, the first approach always seems to work--if performed correctly. Therefore we should all keep in mind that the first approach might be the most important in order to have a good outcome in the long term (3). In those cases where more than two previous surgeries were performed, the best material still seems to be the buccal mucosa. From this well-designed study, we can learn that as long as we do not have the perfect matrix, we can use one off-shelf in the first run thereby avoiding the additional surgeries needed to harvest buccal mucosa with a similar outcome within a follow-up of mean two years. With the patient we have to make the decision if they are already ready to use this material in the first or second approach (4).

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