EDITORIAL

by G. Carmignani

This issue contains a rather relevant number of videos, dealing with two important branches of our specialty: Reconstructive Urology and Endourology. Although they are very different indeed, both belong to Urology, that is one of the more complex and complete surgical specialties.

Another particular point of interest of this issue is that all the videos come from East Europe and this witnesses the willingness of these Countries to participate and to contribute to the progress of the European Urological Association, to which goes the merit, in my opinion, of having stimulated also Eastern Countries to feel themselves as an integrant part of the European Urology.

The comments to the videos have been written by outstanding experts such as Chris Chapple and Paul Van Cangh, to whom we all must be very grateful.

The next issue of the EUVJ will include some of the best and newest videos presented during the last EAU Congress in Brussels.

The full index of the coming issue and the trailers of the videos to be shown can be pre-viewed on-line to the following URL (web-address): http://www.unige.it/aduno/EUVJ/Euvj2.htm
COMMENT
There are several techniques for creation of a neovagina in congenital absence of the vagina. Rectosigmoid segment presents the most natural substitute for vaginal tissue. The technique is effective and safe only in hands of surgeon who is very familiar with pre-, peri- and postoperative refinements; this significantly decreases the number of complications that usually occur in this type of vaginoplasty.

Preoperative evaluation involves assessment of the type of pelvis and perineum and characteristics of the rectosigmoid and its relationship to other pelvic organs and structures. This is crucial in patients who underwent previous surgery in that area.

Intraoperatively, before the rectosigmoid is finally chosen, one should assess the length of sigmoid and its mesentery to determine whether it reaches the pubic symphysis. If the lowest part of sigmoid can be pulled down to reach the pubic symphysis, a tension free rectosigmoid vagina can be anticipated. The isolated segment of rectosigmoid should be as short as possible of up to 10 cm. maximum in order to avoid excessive mucus production. Besides, it is adaptable to increase its length and girth, later on during sexual intercourse. The segment should be in the peristaltic configuration, not antiperistaltic. By reversing the segment neovaginal discharge can be lessened. In order to achieve better mobility of rectosigmoid, the rectal segment is divided from its mesentery, which remains vital due to good intramural vascularization. For the low colorectal anastomosis a stapling device is used as safest procedure. Reconstruction of the pelvic peritoneum has to be done to prevent bowel incarceration and strangulation. The difficult part of the operation is the creation of a perineal cavity for rectosigmoid vagina placement. Using a simultaneous approach through abdomen and perineum very precise dissection must be done in order to avoid injury of rectum, bladder and urethra. It is optimal to create a tunnel passable for three fingers. Various flaps, usually suburethral and perineal made from vaginal tag, are used for anastomosis to the rectosigmoid. In this way a circumferential anastomosis and vaginal prolapse are avoided. Pelvic perivaginal drains are used for the best drainage. Postoperative dilation of neovagina is recommended to prevent introital stenosis during three months after surgery.

The rectosigmoid colon is the best choice for vaginoplasty, due to its size, location and ease of preserving the blood supply. Besides it has high sensitivity, especially its rectal part, produces natural lubrication without excess mucorhea and best resembles the vagina.

REFERENCES
Penile disassembly technique in epispadias repair: our variant

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COMMENT

Nearly a century ago Cantwell (1) described the surgical repair of male epispadias. Since then our knowledge of the anatomy of this anomaly as well as its surgical treatment has evolved. Ransley’s modifications (2) have dramatically improved the results of epispadias repair by derotating the corpora cavernosa securing this with cavernocavernosostomy, transferring the urethra ventrally with the IPGAM procedure at the glans and covering the dorsal aspect of the penis with a preputial flap. The penis is dangling at the flaccid state and is being straightened in the erectile state.

Mitchell (3) extended Cantwell-Ransley technique into complete penile disassembly technique, which incorporates complete separation of the urethral plate along with splitting the glans and corporeal bodies into separate halves whose blood supply is based on the two separated neurovascular bundles. The blood supply to the urethral plate relies on its spongiosal tissue. Dorsal chordee is corrected using internal rotation of two hemicorporal glanular bodies whereas mainly neurovascular bundles are left intact.

Cantwell-Ransley technique is an excellent method for epispadias repair compared to the other standard techniques. However, this technique has weaknesses. The most distal part of corpora cavernosa is not dissected and mobilised as well as urethral plate. That is the reason why the glanular part of the urethra is not covered with corpora cavernosa, which can result in fistula formation at the subcoronal level. Limited mobility of the corpora cavernosa also prevents an ideal urethral ventralization. Urethral plate, which is not completely dissected, presents a limiting factor in successful use of this method in simultaneous newborn extrophy closure and epispadias repair.

Mitchell technique is the latest and in our opinion the best procedure for epispadias repair. However, some details of the technique have disadvantages in selected cases. After complete penile disassembly retraction and shortening of the urethral plate is possible. Therefore, it is difficult to bring up the urethra to the top of the glans without tension. Besides, the most distal part of the urethral plate is poorly vascularised. The main blood supply to the urethral plate comes through corpus spongiosum from proximally located arteries. The glans represents an extension of the corpus spongiosum and obtains its main blood supply from the neurovascular bundles. So, the glanular part of the urethral plate is by large vascularised from the glans. Thus, a small attachment of the urethral plate to the glans results in better vascularization of the most distal part of the urethral plate. Sutured line of the tubularised urethral plate lies dorsally at the glanular level and it is completely covered with joined tips of the corpora cavernosa. This way the risk of fistula formation is minimised. Dorsal chordee repair sometimes requires mobilisation of the neurovascular bundles for its ideal correction. Leaving the neurovascular bundles intact and undisturbed is the great advantage of the Mitchell technique, which is not an advantage anymore if neurovascular bundles need to be lifted from corpora cavernosa in order to repair the curvature. Lifting the neurovascular bundles is not needed in new-borns and infants but could be necessary in older children and especially in adolescents. In some of our cases we noted that the dorsal curvature was caused by two structures: fibrous chordee and marked longitudinal prominence of the thickened duplicated tunica albuginea. To repair these cases without penile shortening, corporotomies with grafting were necessary. This correction can only be performed on completely free cavernous bodies.

Fig. 5: On vaginal tag two flaps, suburethral and perineal, are designed.

Fig. 6: Anastomosis between rectosigmoid and suburethral and perineal flaps are made deeply in the perineum.

Fig. 7: Two years after surgery. Normal appearance of vagina. Anastomotic line, which is not circular, lies deeply in the vagina. (arrow)