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VESICO-VAGINAL FISTULAS: DIAGNOSTICS AND TREATMENT

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Summary. *Causes of vesico-vaginal fistulas may vary; most commonly they develop postoperatively, after radical or classical hysterectomy. This form of fistula may develop as a consequence of urinary bladder defect which occurred during or after radiotherapy of cervical carcinoma, as well as after cesarean section. Such fistulas are very difficult for surgical management. At the Clinic of Urology we treated 216 female patients due to vesico-vaginal fistulas in the period 1978-1997. Out of 146 patients treated in the period 1978-1988, 47 had fistulas which developed after radical hysterectomy (Wertheim), 84 had fistulas after classic hysterectomy (Aldrige), while in 15 patients fistula occurred immediately following cesarean section. In the period 1988-1997 we managed and surgically treated 70 female patients. Seven fistulas developed after Wertheim operation, 36 after classic hysterectomy, 24 after radiotherapy due to Ca PVU, and 3 fistulas developed after delivery. During surgery the transvesical approach in the majority of cases, 126 (58%) was used. For primary closure of fistula we applied with insertion of a part of the omentum as well as the vaginal approach in a much smaller number of cases (31.5%). In cases where lesions of the urinary bladder, vagina and surrounding structures did not allow closure of the fistula, we performed ileal conduit or, in a much smaller percentage, bilateral ureterocutaneostomy. During repeated management in all cases of fistula recurrence after primary surgical treatment (32 cases – 20%) we applied transvesical-peritoneal approach by inserting a part of the peritoneum and omentum with a postoperative success of 97%.*

Key words: *Vesico-vaginal fistula, diagnosis, treatment*

Introduction

Uro-vaginal fistulas, of which the majorities are vesico-vaginal fistulas, represent one of the most difficult areas in the treatment of urinary tract diseases. These fistulas account for a relatively small but a very important part of surgical work of urological institutions. When looking at the past we may see that the problem of those fistulas existed almost as long as humanity itself. Avicenna, as early as in the X century, described the occurrence of vesico-vaginal fistulas after delivery. Adequate management of postdelivery vesico-vaginal fistulas developed simultaneously with the development of surgery in the XVIII century. Marion Sims was the firs to close the vesico-vaginal fistula by operating the patient 30 times, which became a significant date in the history of urology. While postpartum fistulas dominated in the earlier periods, lately postoperative fistulas became more frequent, all due to a considerably larger number of difficult and extensive surgery of female genital organs. More correct delivery management contributed to this ratio as well as better organization. In countries with developed health care the number of postpartum fistulas is very small, while the number of postoperative fistulas rapidly increased due to wider indications for surgery and in a significant percent for radiotherapy of femal genital cancer. Postpartum vesico-vaginal fistulas still dominate in developing countries. The results of surgical treatment depend of numerous factors such as the type of surgical technique, the fistula size, the period of postoperative urinary catheter dwelling, localization, perifistular sclerosis of surrounding connective tissue, infection (urinary bladder, vagina, uterus), postoperative radiotherapy, postoperative care, suture material, e.g. Dexom), etc. Knowing that there are several methods and approaches in the surgical treatment of fistulas, we may say that none of them is perfect. For that reason we strive to advance the surgical techniques with better approaches and postoperative care.

Material and methods

A total of 216 patients were surgically treated due to vesico-urinary fistulas in the period 1978-1997 at the Clinic of Urology of the Institute of Urology and Nephrology in Belgrade. In the period 1978-1988 there were 156 (67.5%), and in the period 1988-1997 70 (32.5%) such patients. Hysterectomy as the basic etiological factor was previously performed in 175 patients (81%): radical Wertheim hysterectomy in 54

(25%) [47 (31%) in 1978-1988; 7 (10%) in 1988-1997] and classical hysterectomy in 121 patients (56%) [84 (57%) in 1978-1988; 36 (51%) in 1988-1997]. Vesico-vaginal fistulas after radiotherapy for female genital cancer developed in 24 (11%) patients. Postpartum fistulas developed in 18 patients (8%), in the period 1978-1988 in 15 (10%) and in 3 patients (4%) in the period 1988-1997.

Results and Discussion

Suture of the vesico-vaginal fistula by the transvesical approach was the most frequently applied surgical technique, used in 126 patients (58%) [88 (60%) in 1978-1988, 38 (54%) in 1988-1997].

Transvesical-peritoneal approach with peritoneum insertion was applied in 35 cases (16%) [23 (16%) in 1978-1988; 12 (17%) in 1988-1997].

The more recent approach, transvesic-peritoneal approach with insertion of a part of the omentum and vaginal tamponade, as a form of primary management of vesico-vaginal fistulas was applied in one patient (0.5).

Classical vaginal approach was applied in 34 patients (15%) [25 (17%) in 1978-1988; 9 (13%) in 1988-1997]. In cases where advanced lesions of the urinary bladder, vagina and other surrounding structures did not allow for suture of the fistula we performed ileal conduit in 12 patients (6%) [4 (4%) in 1978-1988; 6 (8%) in 1988-1997] and bilateral ureterocutaneostomy in a smaller number of cases due to irreversible lesion of the digestive tract as a consequence of radiotherapy [4 (3%) in 1978-1988; 4 (5%) in 1988-1997]. Recurrences after primary management developed in 32 patients or 20%. In patients treated by transvesical approach recurrences occurred in 27 cases (21.4%), in 5 (14.7%) of those treated by vaginal approach. In all cases who underwent repeated surgery we applied the transvesical-peritoneal approach with insertion of a part of peritoneum or omentum. The positive outcome was recorded in 97%) (31 patients). One patient who developed repeated recurrence of vesico-vaginal fistula refused further surgical treatment.

Conclusion

Management of vesico-vaginal fistulas still represent a significant part of our surgical work due to their high incidence (216 cases in 20 years) although there is a decreasing tendency (146 in the period 1978-1988 and 70 cases in the period 1988-1997).

There is also a further decreasing tendency of the number of postpartum vesico-vaginal fistulas (cesarean section) which may be documented through the decades (1949-1959 – 62%; 1960-1969 – 11%; 1978-1988 – 10%; 1988-1997 – 4%), which indicates advanced obstetric care and better delivery management.

On the other hand the incidence of vesico-vaginal fistulas after radiotherapy due to Ca PVU significantly increased (11%).

Transvesical approach (58%), vaginal approach (15%) and transvesical-peritoneal approach with peritoneum insertion (16%) are the most frequently used surgical approaches for suture of such fistulas.

Mild increase of the application of ileal conduit (from 4 to 8%) in the last decade indicates the occurrence of more severe and more extensive lesions as a consequence of either external of internal radiotherapy for Ca PVU, as well as for other malignancies of female genital organs.

The development of recurrences indicates that none of the surgical techniques is complete as well as the need for careful evaluation of the patient when selecting the surgical approach. From the aforementioned it is clear that the treatment of vesico-vaginal fistulas in our patients still represents a significant area in the treatment of urinary tract diseases and indicates the greater need for continued collaboration between the urologist and gynecologists for more adequate management.

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VEZIKO-VAGINALNE FISTULE: DIJAGNOSTIKA I TRETMAN

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Kratak sadržaj*: Uzroci veziko-vaginalnih fistula mogu biti različiti; najčešće nastaju postoperativno-posle radikalne ili klasične histerektomije.Ove fistule mogu nastati i kao posledica oštećenja mokraćne bešike prilikom i nakon zračne terapije karcinoma grlića materice, kao i posle Sectio Caesarea.Ovako nastale fistule su veoma teške za operativno zbrinjevanje. Na Urološkoj klinici u Beogradu, u periodu 1978 god. do 1997 god. lečeno je 216 pacijentkinja sa veziko-vaginalnim fistulama. Od 146 pacijentkinja koje su tretirane u periodu 1978 god. do 1988 god., kod 47 fistula je nastala posle radikalne histerectomije (Wertheim), kod 84 nakon klasične histerektomije (Aldrige), dok se kod 15 pacijentkinja javila neposredno nakon carskog reza. U periodu 1998 god. do 1997 god. lečeno je i operisano 70 pacijentkinja. Posle Wertheim-ove operacije nastalo je 7 fistula, posle klasične histerektomije 36, posle zračne terapije Ca PVU 24 i posle porodjaja 3 fistule. Prilikom operativnog zatvaranja fistula, u najvećem broju slučajeva 126 (58%) bio je primenjen transvezikalni pristup.U znatno manjem broju slučajeva korišćeni su kod primarnog zatvaranja fistula transveziko peritonealni pristup sa umetanjem dela omentuma ili peritoneuma, kao i vaginalni pristup (31.5%). U slučajevima kada promene na bešici, vagini i okolnim strukturama nisu dozvoljavale zatvaranje fistule, učinjen je ilealni konduit ili u još manjem procentu, obostrana ureterokutaneostomija. U svim slučajevima recidiva fistule nakon primarnog operativnog zbrinjavanja (32 slučaja-20%) tokom ponovnog operativnog rešavanja korišćen je transveziko-peritonealni pristup, sa umetanjem dela peritoneuma i omentuma, i postoperativnim uspehom od 97%.*

Ključne reči: *Veziko-vaginalne fistule, dijagnoza, tretman*

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