Surgical care vesicovaginal fistulas in women with malignant gynecological disease

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Vesicovaginal fistulae (VVF) represents one of the most frequent complications of various gynecological and obstetric procedures. In presence of a gynecological malignant tumor, fistula could be the outcome of surgical complications, radiotherapy or consequence of the tumor process. Reparation of these fistulae is a very complex problem. Our aim was to analyze the results of surgical care VVF-s occurred in women with malignant gynecological disease which was treated surgically or with radiotherapy. Out of the 48 surgically treated patients with primary VVF, in 28 of them fistula occurred after hysterectomy, and in 20 patients after radiotherapy. In 15 patients (31.25%) transvaginal approach was applied, and in 33 patients (68.75%) abdominal approach was applied, with the interposition of a well vascularized lobe being used in 25 patients. All the VVFs that occurred after radiotherapy were repaired by using the abdominal approach. The efficiency of surgical treatment of VVFs after hysterectomy due to a malignant disease was 78.5%, and after radiotherapy 65%. In patients that have not been subjected to radiotherapy, depending on the characteristics of the fistula, transvaginal or abdominal approach is applicable in VVF reparation, while the abdominal approach remains a golden standard in post-radiation fistula treatment, despite the fact that it has not solved the problem after the first medical treatment in as far as 35% of patients.

Key words: vesicovaginal fistulae, gynecological malignant tumors, surgical reparation.

INTRODUCTION

Vesicovaginal fistulae (VVF) represents one of the most frequent complications of various gynecological and obstetric procedures. As a rule, those are not life-threatening pathological conditions, however they pose a considerable not only medical but also social problem.
OBJECTIVE

To analyze the results of the surgical treatment of vesicovaginal fistulae in women with malignant gynecological disease treated surgically or with radiotherapy.

METHODS AND PATIENTS

A retrospective study of surgically corrected vesicovaginal fistulae formed as a result of the therapy of the malignant gynecological disease was conducted. The study was conducted at the Clinic of Urology at the Clinical Center of Serbia in Belgrade in the period from 1/1/2006 to 30/6/2013. The research included 48 patients with primary VVF.

The following characteristic traits of the disease were registered: the time of life (measured in decades), the intervention preceding the appearance of the fistula (hysterectomy due to a malignant lesion or radiotherapy), localization of the fistula in relevance to the bladder trigonum (supratrigonal, trigonal), size of fistula (small fistula, up to 10 mm large, medium fistula, from 10 to 20 mm large, large fistula, over 20 mm large), type of the surgical procedure conducted (transvaginal approach, abdominal approach with or without omentum or peritoneum interposition), outcome of the operation (healing, recidivism). The absence of incontinence (unwilling loss of urine through vagina) at the six months’ follow up was regarded as a successful outcome of the operation.

SURGICAL TECHNIQUES APPLIED

Every surgical correction of VVF has to include a few key elements. These are: excision of the entire diseased tissue of bladder and vagina, complete separation of bladder from vagina and tension-free suturation of the structures.

Two approaches were applied in surgical treatment, transvaginal and abdominal.

Transvaginal approach technique involves the removal of the vaginal wall in the diameter of approximately 1 cm around the fistula without the excision of the fistulous canal in the bladder. The overlapping sutura of the bladder, vesicovaginal fascia and vagina is then undertaken. The advantage of this procedure is the minimal intraoperative loss of blood and technical simplicity.

It is also significant that bladder is not being surgically opened, which excludes the possibility of injuring ureteras and urethra. Relative contraindications for vaginal approach are postirradiation fistulae so this approach was not used in any of the instances of the postirradiation-vesicovaginal fistula.

In abdominal approach, bladder is initially released, and then opened with a vertical incision starting from the top of the fistulous canal which is afterwards excised. Should the repARATION of fistula also reach the bladder trigonum it is necessary to place probes into the ureters. The vaginal wall is being repaired first, and then the bladder wall is repaired with sutura in two layers. If the tissue shows reduced vitality this approach permits the insertion of a lobe of well-vascularized omentum or peritoneum between the vagina and bladder. The lobe has to be applied when the tissue has been changed with radiation, fibrosis or a scar.

RESULTS

In the period from 1/1/2006 to 30/6/2013 48 female patients with VVF formed after the malignant gynecological diseases treatment were surgically treated at the Clinic of Urology of the CCS in Belgrade. In 28 patients (58.3%) fistula appeared after radical hysterectomy while in 20 patients (41.7%) fistula appeared after radiotherapy.

The youngest person with VVF was 32 years old, and the oldest was 69. Fistula was most frequently diagnosed in persons in their forties. The average age of the diseased was 51.16 +/- 5.53 years of age, which implies a dishomogenous group.

Among the primary VVF 9 (18.75%) of small fistulae, 26 (54.17%) of medium fistulae, and 13 (27.08%) of large fistulae were registered. According to the position of the primary VVF in relevance to the trigonum of the bladder 29 (60.42%) of supratrigonal and 19 (39.58%) of trigonal fistulae were registered.

Out of 48 primarily operated patients in 15 instances (31.25%) transvaginal approach was used, and in 33 instances (68.75%) abdominal approach was used, with the interposition of the lobe being used in 25 instances altogether. Out of the 25 instances transperitoneal approach with the interposition of the lobe of the well-vascularized omentum was used 17 times, while the interposition of the lobe of parietal peritoneum was used in 8 instances.

In 35 patients (72.92%) at the six months’ medical control there was no involuntary loss of urine through vagina thus rendering the operation successful, while in 13 instances (27.08%) incontinence relapsed.

Out of 15 patients who had the fistula treated transvaginally, in 12 instances (80%) at the six months’ follow up there were no signs of incontinence.

In 13 patients where the fistula formed after hysterectomy transabdominal approach was used. This kind of treatment proved successful with 10 patients (77%).

In the group of 13 patients who got VVF after radiotherapy the choice of surgical treatment was always transabdominal approach with lobe interposition. This approach brought about the healing of the fistula in 13 patients (65%). Due to the proximity of the fistula to the ureteral orifice in six instances unilateral ureterectomy (UCN) was made during the operation. No cases of perioperative mortality were registered.

DISCUSSION

Since the research was made in a highly specialized institution, stretching over the period of over seven years, and despite the fact that the number of patients was not very high, it can be said that the results of this research, as well as the conclusions that can be made on the basis of the results are valid.

In our country, just like according to the available professional literature, the most common cause of VVF is the surgical removal of the uterus. Bladder injury during vaginal or transabdominal hysterectomy can result in VVF formation. The mechanism of fistula development is insufficiently clear, but the most probable cause is an undetected bladder injury made during the intervention which represents the location where the fistula is formed.
on the field of the malignant disease and consequently hipovascularized tissue.

In the above mentioned period in our institution 28 diseased women with VVF following hysterectomy due to a malignant disease were operated, out of which 15 patients were treated by transvaginal approach if the position and size of the fistula permitted it, in line with the studies and principles of medical treatment of other authors. In 13 instances the repairation of the fistula was performed by transabdominal approach with the interposition of the lobe. Altogether, the efficiency of the surgical treatment of VVF following hysterectomy due to a malignant disease was 78.5%, which is in line with the studies of Tabakov, Yatoi and Mehmud et al. The efficiency of the surgical treatment by certain approaches was virtually the same, pointing out the fact that good preoperative evaluation, i.e. the knowledge and experience of the surgeon are of great importance for the outcome of the treatment.

Vesicovaginal fistulae formed as the result of radiotherapy were treated as the most severe form of fistulae and therefore approached in the most radical manner. All the patients with this type of fistula, 20 of them, were treated with abdominal approach using the lobe of not only omentum but also of parietal peritoneum. At the six months’ medical control in 13 instances (65%) no incontinence was noticed, which can be considered as highly efficient considering that the diseased women were treated in a highly specialized institution toward which are directed the most demanding medical cases.

CONCLUSION

The study showed that surgical treatment of vesicovaginal fistulae in women with malignant gynecological disease represents a complex form of treatment which does not always yield the desired results. In instances when size and localization of the fistula permit it, transvaginal surgical approach should be used with patients that have not previously been subjected to radiotherapy. Our results and practice confirmed that transabdominal approach with the interposition of a well-vascularized lobe is also an optimal method of treating VVF's formed after the hysterectomy due to a malignant disease. On the other hand, this surgical approach represents a golden standard in the treatment of postirradiational fistulae, although it did not solve the medical problem after the first intervention in as far as 35% of the instances.

SUMMARY

Vezikovaginalne fistule (VVF) predstavljaju jednu od najčešćih komplikacija različitih ginekoloških i akušerskih procedura. Kada postoji ginekološki maligni tumor fistula može biti rezultat hirurške komplikacije zračne terapije ili posledica samog tumorskog procesa. Reparacija ovakvih fistula je veoma kompleksan problem. Cilj ovog rada je bio da se izvrši analiza rezultata hirurškog zbriživanja VVF nastalih kod bolesnica sa malignom ginekološkom bolešću koja je tretirana hirurškim postupkom ili zračnom terapijom. Ukupno je hirurški tretirano 48 pacijentkinja sa primarnom VVF, pri čemu je kod njih 28 fistula nastala posle histerektomije a kod njih 20 posle zračne terapije. U 15(31,25%) slučajeva je primenjen transvaginalni pristup a u 33 (68,75%) slučaja abdominalni pristup, od čega je u 25 slučajeva korišćena interpozicija dobro vaskularizovanog režnja. Sve VVF nastale posle zračne terapije reparirane su abdominalnim pristupom. Uspješnost hirurškog lečenja VVF nakon histerektomije zbog malignog oboljenja bila je 78,5% a nakon zračne terapije 65%. Kod pacijentkinja koje nisu podvrgavane zračnoj terapiji, u reparaciji VVF zavisno od karakteristika same fistule može se primeniti transvaginalni ili abdominalni pristup, dok je abdominalni pristup zlatni standard u lečenju postiradijacionih fistula iako u čak 35% slučajeva nije doveo do rešavanja problema nakon prve intervencije.

Ključne reči: vezikovaginalne fistule, finekoški maligni tumori, hirurška reparacija

REFERENCES