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A critical analysis of perioperative mortality and morbidity from radical cystectomy

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Introduction and Objectives: Radical cystectomy is a challenging operation, often performed on elderly patients with associated comorbidities that require diligent attention to pre-, intra-, and postoperative details. Despite this, complications do occur. It is important for all surgeons to be familiar with the presentation, prevention, and treatment of the major causes of morbidity and mortality associated with radical cystectomy and lower urinary tract reconstruction. We sought to analyze the perioperative events after radical cystectomy and urinary diversion in bladder cancer and to seek relationships with patient's characteristic and surgical procedures

Material and Methods: Between January 2006 and December 2008, 73 consecutive patients (82% male) underwent radical cystectomy and urinary diversion for primary carcinoma of the bladder, at our hospital. The average age was 63 yr (34–81). The preoperative characteristic of the patients (age, sex, hemoglobin, comorbidities) and perioperative data (operative time, type of urinary diversion, associated procedures) were recorded. Perioperative morbidity was defined by any adverse event during hospital stay or within 30 days after surgery.

Results: The perioperative mortality and morbidity rate were 2.73% and 35%. The most frequent medical complications were ileus (15%), urinary tract infection (4.1%) and sepsis (4.1). Surgical complications included evisceration (6.8%), wound infection and wound dehiscence (6.8%) and urinary fistula (4.1%). Between age and perioperative complications there was a significant correlation from the statistical point of view (Spearman's correlation coefficient $r = 0.23$, $p < 0.05$). No relationships between biological parameters, type of diversion, associated procedure and perioperative complications could be revealed. The postoperative hospital stay was significantly longer in patients with complications (25 ± 8 d) compared with patients without complications who had a mean postoperative hospital stay of 18 ± 5 d.

Conclusions: Radical cystectomy remains an operative procedure with significant morbidity and potentially life-threatening complications. Thanks to a thorough understanding and improvement in surgical technique and perioperative anesthetic care, the early mortality from radical cystectomy has decreased from nearly 20% before 1970 to 5% in most contemporary series.

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Validation of the Memorial Sloan-Kettering Cancer Center (MSKCC) postoperative nomogram predicting risk of recurrence after radical cystectomy for bladder cancer

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Introduction and Objectives: Radical cystectomy has emerged as the primary treatment for localized or locally advanced invasive and high-risk superficial bladder cancer. In about half of patients undergoing surgery will develope distant metastasis. The key point of the adequate follow-up is the progression risk evaluation. The aim of the study is the validation of the MSKCC postoperative nomogram predicting 5-year progression-free probability after cystectomy. The monogram includes informations on patient sex, age, time from diagnosis to surgery, histology, node status and tumor grade.

Material and Methods: We performed radical cystectomy for cancer in 102 subjects from January 2002 to June 2008. Using the MSKCC nomogram we retrospectively evaluated their postoperative status. Three groups of progression risk were determined – high (calculated probability of remaining disease free at 5 years after cystectomy of 0–39%), intermediate (40–69%) and low (70–100%). We compared the monogram informations to the real metastasis and local reccurence development in our patients.

Results: In our file were 77 men and 25 women, the mean age was 65 years (46–77), transitional cell carcinoma was represented in 95% (n = 97), sqaumous cell carcinoma in 3% (n = 3), adenocarcinoma in 1% (n = 1) and small cell carcinoma in 1% (n = 1). The tumor stage of Tis in 4% (n = 4), Ta in 2% (n = 2), T1 in 22% (n = 22), T2 in 26% (n = 27), T3 in 24% (n = 24), T4 in 21% (n = 21) was reported. The tumor stage of T0 was described in 2 patients. The concomitant Tis was found in 6 cases. The high grade tumors were reported in 79% (n = 81), low grade tumors in 21% (n = 21), the positive nodes in 16% (n = 16). The synchronous development of prostate cancer was found in 18% of men (n = 14), possibly significant tumor of GS≥7 in 2 cases. The median 5-year progression-free probability of 10% (range 1–25%) was calculated in the high risk group (enrolled 21% of patients, n = 21), 61% (range 43–66%) in the intermediate risk group (enrolled 35% of subjects, n = 36) and 83% (70–96%) in the low risk group (44% of patients, n = 45). The median follow-up for the entire cohort was 35 months (2–90). The distant metastasis or local reccurance were detected in 27% (n = 12) in the low risk arm (17% expected according to the MSKCC nomogram), in 42% (n = 15) in the intermediate group (39% expected) and in 76% (n = 16) in the high risk arm (90% expected) during follow-up.

Conclusions: Although the statistically significant difference in results of the group of the low risk (27% versus 17%) and high risk (76% versus 90%) of disease reccurance was found, the MSKCC nomogram has high predictive value in calculation of the progression-free probability in patients after radical cystectomy.

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The comparative investigation of perineal muscle functions after Mainz pouch type II distraction of urine following radical cystectomy or after radical prostatectomy surgeries

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Introduction and Objectives: Following Mainz pouch type II distraction of urine and radical prostatectomy, the changes in the functions of anal spinchter were investigated and compared.

Material and Methods: Within the frameworks of prospective examinations, the rest anal spinchter pressure (RASP) and the maximal contraction pressure (MACP) were determined with the usage of rectal manometry. During the investigations, the survey data of the preoperative stage were compared with the measurements which were carried out half a year after the radical surgeries. As for the state of continence, it was estimated with the help of a survey. The investigations were to be carried out in 15 patients in the case of Mainz pouch type II surgeries, while in the case of retropubic prostatectomy, 27 patients were involved in the study.The statistical calculations two-pattern t-probe were utilized

Results: In Mainz pouch surgeries significant decrease were detected in the RASP (86.33 ± 18.75 vs. 76.13 ± 13.86 $p = 0.0049$)

and MACP values (232.2 ±53.8 vs. 194.06±74.47 p = 0.0054) and 80% of the patients remained continent. Radical prostatectomy patients were no changes in the state of anal continence, no significant difference was observed in the parameters of the anal spinchter regarding either the RASP (84.7±26.5 vs. 83.5±26.7 mmHg) or the MACP (311±100 vs. 294±86 mmHg) results. Comparing the preoperative results between the two types of operations there were no significant difference in RASP (86.33±18.75 vs. 84.7±26 mmHg) and in the MACP (232.2 ±53.8 vs. 311±100 mmHg). Referring to the postoperative reports, however, the RASP values in the case of Mainz pouch type II the distraction of urine was detected to be lower, the difference was not significant (76.13±13.86 vs. 83.5±27 mmHg). The values of MACP (194.06±74.47 vs. 294±86 mmHg) were nevertheless significantly better in the case of patients who underwent radical prostatectomy.

Conclusions: Both the rest anal spinchter pressure and the maximal contraction pressure values decrease significantly after the Mainz pouch type II distraction of urine. Radical prostatectomy has no influence on the functions of anal spinchter. Comparing the two types of surgeries, we detected the significant decrease of the contractility of perineal muscle

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Managing the retroperitoneal tumors – 20 years single center experience

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Introduction and Objectives: The aim of this study was to present our experience in managing retroperitoneal tumors knowing that these special tumors represent a big challenge for many surgeons.

Material and Methods: Beetwen January 1989 and January 2009 in our department were accepted 152 patients with retroperitoneal tumors, others than kidney or adrenal gland. 101 males and 51 female were diagnosticated with primary or secondary retroperitoneal tumors. Clinical findings were represented by lumbar pain, tumor, digestive symptoms, fever, reno-vascular hypertension, and signs of compression (vena cava, vena porta). Imagistic evaluation was represented by abdominal ultrasound, IVP with major signs of urinary tract obstruction. CT and MRI represented the gold standard examinations. Imagistic protocol was completed with pulmonary radiography, renal and bone scintigraphy, Doppler ultrasound for vessels and digestive endoscopy. CT or ultrasound guided biopsy was not a routine in our department.

Results: Surgery was performed in 144 cases. The trans-peritoneal approach was considered in 96% of cases. Different operations were performed according to the extension and the stage of the tumor as follows: tumorectomy combined with nephrectomy and adrenalectomy, simple radical tumorectomy, vena cava resection, haematoma drainage, surgical cure of cyst, tumorectomy and bowel resection, duodenum resection, tumorectomy and caudal pancreatectomy, laparotomy and biopsy. The pathological study of retroperitoneal tumors was dominated by different sarcomatous types in 83 cases. Other patients presented various types of histological findings: neuroblastoma, benign soft tissue tumors, benign cysts, old haematoma, limphoma and some of them secondary, metastatic retroperitoneal tumors.

Conclusions: Retroperitoneal tumors were detected frequently in advanced stages, due to non-specific clinical signs and to their deep position. Pain, tumor and compression represented the main clinical findings. CT and MRI were a must for the evaluation of these tumors. Trans-peritoneal approach was preferred and different conditions such were invasion of neighborhood structures, extension and lymph node dissection were solved using this way. Because retroperitoneal tumors were in many cases sarcomas, which are well-known chimio- and radio-resistent, surgery represented the main curative treatment.

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The androgen status of the appendix testis determines the effect of hormonal treatment in cryptorchidism

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Introduction and Objectives: Efficacy of hormonal treatment in cryptorchidism is still debated. While some authors have found that human chorionic gonadotropin and luteinising-hormone-releasing hormone are very useful in causing the descent of retractile testis, randomized double blind trials have shown poor outcome of hormonal treatment in 1–5 years old boys with undescended testis. To investigate the causes of this contraversion, we aimed to compare the androgen receptor status of the appendix testis in congenital undescended and retractile testis.

Material and Methods: Total 21 appenices testis were removed from 18 boys, who underwent orchiopexy. Group U (n = 9) including 3 patients with bilateral and 3 patients with unilateral congenital undescended testis and Group R (n = 12) including 12 boys with acquired undescended testis, who were previously followed up because of retractile testis. Immunohistochemistry was carried out with BioGenex monoclonal anti-human receptor antigen (Clone: F39.4.1) and after incubation of the primary antibody, sections were stained with the fluorescein isothiocyanate conjugated goat anti-mouse secondary antibody. Sections were counterstained with 4,6-diamino-2-phenylindole (DAPI). Lightmicroscopy (immunohistochemistry) and confocal laser microscopy (immunofluorescence staining) were used to visualisation of sections.

Results: Androgen receptor expression was found both immunohistochemistry and immunofluorescence staining in the epithelial layer of appendix testis 100% in Group R (12/12), but there was no visible androgen receptor expression in Group C (0/9).

Conclusions: The presence of androgen receptor in the epithelial cells of appendix testis in patients with retractile testis and absence in patients with congenital undescended testis can be a possible cause of the effectiveness of hormonal treatment in retractile testis and uneffectiveness in patients with congenital undescended testis.

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Two stage hypospadias cripples buccal mucosa graft repair

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Introduction and Objectives: Complications after failed hypospadias surgery could be severe including anterior urethral strictures with obstruction in urine and semen elimination, urethral fistula, urethral lithiasis, urethritis, recurrent UTI, the treatment of these cases being extremely difficult. The urethral reconstruction requires complete excision of the scared local tissues and use of extragenital tissues for repair.