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Cystectomy and Urinary Diversion – Lessons Learned

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Radical cystectomy and pelvic lymph node dissection provides the best cancer specific survival for muscle invasive urothelial cancer and is the standard treatment with 10 year recurrence free survival rates of 50 to 60% and overall survival rates of around 45% [1]. Radical cystectomy with urinary diversion is a procedure in which reduction of morbidity, rapid postoperative rehabilitation, limited length of hospital stay and cost containment are difficult to achieve.

From a technical point of view, a radical cystectomy is a well established procedure [2]. A more debated topic is the issue of lymphadenectomy in patients in whom radical cystectomy is undertaken with curative intent. In all large radical cystectomy series about 25% of patients have node positive disease. We believe today that these patients have a chance for cure as long as the nodal invasion is limited and when in some cases adjuvant treatment is considered [3].

The indications for simultaneous “prophylactic urethrectomy” in male patients seem to be limited to those patients where invasion by TCC is present in the prostatic stroma while those with multifocal tumours, carcinoma in situ and even urothelial invasion of the prostatic urethra are not considered to absolutely indicate urethrectomy.

New techniques including prostate or seminal vesicles sparing cystectomies, aiming at preserving sexual function, are proposed but are by most not considered to be appropriate. Only single center series have shown the feasibility and sometimes also oncological safety.

With the advent of robotic assisted surgery also cystectomy has been done this way in a couple of expert centers. It remains unproven whether it is clever to do so and whether this is oncologically as safe both from an oncological point of view as when it comes to duration of the cystectomy and the urinary diversion [4,5].

While preoperative chemotherapy has shown to benefit to patients with more advanced stages, it is today not clear if all patients undergoing cystectomy for muscle invasive bladder cancer should be considered candidates for neoadjuvant chemotherapy. Definitely in patients with clinically obvious nodal disease chemotherapy is the primary (and sometimes only) treatment, but in some cases when an excellent response to chemotherapy is obtained, consolidation radiation treatment or surgery can be considered.

Most complications after cystectomy and urinary diversion are not due to the cystectomy but to the urinary diversion. While the postoperative mortality has been reduced to extremely rare cases in most expert centers, the morbidity of the procedure still remains high. There is certainly a relation between morbidity and surgical volume although not only surgical skills but also the availability of an integrated multidisciplinary surgical-anesthesiological team is needed [6].

The urinary diversion type should be discussed with the patient and depends on general condition, the underlying disease stage, the wish of the patient and the available surgical expertise. While bladder substitution could be considered in virtually all patients that can safely undergo a cystectomy, cutaneous diversion remains often applied in older patients where the reeducation of the bladder substitution is anticipated to be more difficult. Continent cutaneous diversion were pretty popular many years ago while today more surgeons will either go for a bladder replacement or a cutaneous Bricker diversion. Diversions of the uretero-sigmoidostomy type have become less and less popular due to many complications with ascending infections, electrolyte disturbance, anal problems and development of adenocarcinoma of the colon.

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Treatment of Small Renal Tumours – Surveillance Focal Treatment or Surgery?

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Small, solid renal masses (<4 cm in diameter, i.e. T1a) detected incidentally in asymptomatic patients constitute already about 50% of all renal tumours being diagnosed today. A retrospective analysis of the histology of 287 lesions of this type subjected to surgery at our institution showed that that 21% are benign tumours. The rest are malignant, but with a diameter <2 cm only ~4% show evidence of more potential for progression. This increases rapidly with larger lesions, and of lesions 3–4 cm in diameter 26% are high grade tumours, 36% have extracapsular extension (pT3) and 8% metastases at the time of diagnosis.

With a potential of aggressiveness of this magnitude surgical removal is clearly indicated in any patient fit for surgery, and with an adequate life expectancy. Therapy of choice for T1a tumours today is therefore nephron-sparing partial nephrectomy, and in most cases this is now accomplished by laparoscopic/robot-assisted laparoscopic partial nephrectomy. The procedure carries major morbidity, however, with complication rates >15% even in the hands of high-volume experts. As in retrospective series the time to progression without therapy has been shown to be substantial, “Active Surveillance” has become a widely accepted option in infirm, older patients with limited life expectancy. Unfortunately the data this approach is based on is sketchy at best, as all retrospective series are small, follow-up is usually inconsistent and in the most cases no histology of the mass is available (~21% are benign!). Moreover follow-up by repeat cross sectional imaging has proven unreliable, as changes in tumour size correlate poorly to progression. In the Toronto series, the largest prospective trial on active surveillance of SRM undertaken today, 16% of SRMs progressed in size over time, with a median follow-up of only 28 months (and were therefore operated), with no difference between malignant and benign tumours, and 1.3% developed metastases. Clearly this approach is only acceptable for very frail patients with very limited life expectancy, and requires precise follow-up.

The option between surgical removal and active surveillance lies with less invasive energy ablation, either by a percutaneous or laparoscopic approach. Radiofrequency has been utilized for this most extensively, usually by a percutaneous approach under CT guidance. With the more recent availability of needle cryoprobes cryoablation has gained attention, as the visibility of the “snow ball” permits simpler monitoring of the evolving lesion. In spite of multiple clinical reports with these techniques hard data on the results are scarce, with the main problem in most reports being again the lack of histology, short follow-up, insufficient definition of success and often not defining treatment failure (= residual/recurrent tumour) per treatment. Metaanalyses of published data document their poor quality, but in general conclude that cryoablation is more reliable than radiofrequency ablation and laparoscopy guided approaches give better results than percutaneous techniques, with comparable over-all complication rates.

In essence, we consider partial nephrectomy standard treatment in any patient fit for the procedure. In patients at moderately higher surgical risk with SMRs <3 cm in diameter we prefer energy ablative techniques, preferably laparoscopic cryoablation. In high risk patients peripheral, exophytic tumours are managed by percutaneous cryoablation, and only central lesion are managed by active surveillance. In all latter situations a biopsy is first obtained, as benign tumours require no treatment.

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The EAU Guidelines on Testicular Cancer

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Objectives: To present in the name of the European Association of Urology the current Guidelines on Testicular Tumours developed by the Association.

Methods: Guidelines were elaborated by a multidisciplinary working group following a comprehensive review of the literature on diagnostic, treatment and follow up of testicular cancer. MEDLINE, Embase and the Cochrane library databases were consulted. Data from the European Germ Cell Cancer Collaborative Group (EGCCCG) was also included.

References were weighted by the panel members and levels of evidence (LE) and recommendation grade (RG) were assigned.

The panel met once a year and communicated at least twice a year per e-mail.

Results: For staging the 2009 TNM classification is recommended. High quality RCT were supporting the recommendations on treatment in early