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Bacterial colonization of percutaneous nephrostomy

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Introduction and Objectives: Percutaneous nephrostomy (PCN) is widely used in urology. The aim of this study was to assess the frequency bacterial colonization of PCN, PCN-associated bacteriuria, correlation of the indwelling time with bacterial colonization and value of urine culture to identify colonizing bacteria.
Material and Methods: The prospective study was performed between 2005–2008 in 40 patients, with complete ureteric stone obstruction. PCN was inserted in all patients to releve the obstruction. All patients were treated by ESWL (Siemens Lithostar) and PCN were removed after complete stone desintegration and elimination. Sterile urine samples were taken through the nephrostomy canal after inserting and prior to removal of PCN. PCN was removed under sterile conditions and proximal (pigtail) ends were cut off and placed in the culture media for bacterial evaluation. Antibiotics were administered according to the results of positive urine samples and continued for 5–7 days and the remaining patients were treated 3 days with oral antibiotics (Olfoxacin or Cefixime). There were not patients with clinical signs of urinary tract infection and none of them were treated with antibiotics prior to PCN removal.
Results: Bacteriuria was found in 65% and bacterial PCN colonization in 60% of patients. There was not statistically significant increase of positive urine samples taken during PCN insertion and after PCN removal ($p = 0.625$). Bacterial colonization was identified in (20/24) 83.3% urine samples and (4/24) 16.7% colonized PCN associated with a negative urine culture. The same colonizing microorganisms were identified in (10/24) 41.6%. The rate of colonization was 8.3%, 25% and 66.7% when indwelling time is less than 4 weeks, 4–6 weeks and more than 6 weeks, respectively. Sterile urine and colonized PCN were detected in 4/40 patients, and in 6/40 positive urine and sterile PCN were found. Positive urine and colonized PCN were detected in 20/40 and in 10/40 sterile urine and sterile PCN were found.
Conclusions: PCN colonization rate was 60% in our study and it is common if the indwelling time is more than 4 weeks. Bacteriuria is associated with insertions of PCN. Urine culture is the noninvasive method for detecting PCN colonization (83.3%) but it is not reliable in identifying the colonizing bacteria (only 41.6%). Prophylactic antibiotics do not prevent PCN colonization.

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CT urography: clinical indications, limitations and radiation dose: a proposed approach

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Introduction and Objectives: In our exhibit we will demonstrate a proposed protocol that we use at our institution, based on the most frequent present-day clinical indications and the possible limitations of the examination.
Material and Methods: Computed tomography urography (CTU) is a relatively new diagnostic imaging modality providing comprehensive evaluation of the upper and lower urinary tract. As multidetector CT has become more widely available, CTU has begun to replace other imaging techniques, especially intravenous urography (IVU).
CTU is defined as a diagnostic examination optimized for imaging the kidneys, ureters, and bladder. The examination involves the use of multidetector CT with thin-slice imaging, intravenous administration of a contrast medium and imaging in arterial, corticomedullary and excretory phases. Two and Three-dimensional images of the targeted organs can be then obtained through digital image reconstruction.
Results: CTU is justified as a first-line test for patients with macroscopic haematuria at high-risk for urothelial cancer. Renal tumors and their vascular structures can be imaged in high detail with CTU. CTU can also be useful in the investigation of urinary diversion procedures following cystectomy, hydronephrosis, chronic symptomatic urolithiasis including planning of percutaneous nephrolithotomy (PCNL), traumatic and iatrogenic ureteral injury, complex urinary tract infections and in the diagnosis of bladder tumours.
The relatively high radiation dose of multiphase CTU is a significant limitation of the widespread acceptance of this technique. Strict indications for multiphase CTU are important tools to manage this relatively high-dose examination.
Conclusions: CT Urography is a non-invasive and relatively safe method for the imaging of the entire urinary tract. Its use in selected cases greatly increases the diagnostic possibilities of urinary tract imaging methods. As multidetector CT scanners become more widely available, this imaging method will supplant older imaging techniques. Surprisingly, in many reviews only one CTU technique is suggested to encompass all clinical indications. Therefore we propose a differential approach used in different patient populations as the next logical step in the evolution of CTU as a powerful yet dose-efficient test for urinary tract assessment.

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Urological complications of kidney transplantation: 13 years' experience

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Introduction and Objectives: Urological complications have caused considerable morbidity in kidney transplantation occasionally resulting in graft loss and death. The outcome for transplant recepients has improved due to newer immunosupresive protocols and advancements in surgical techniques. The curent rates of major urological complications in large series are around 6.5%.
Material and Methods: We describe our experience of urological complications in series of 260 live donor kidney transplants, performed in period of 30th Jan 1996. – 27th Jan 2009. The mean age of transplant recepients was 36, and male to female ratio of 2:1. All recepients, except two, underwent extravesical modified Lich Gregoir ureteroneocystostomy (UCN) with two paralel incisions, and all were stented with 6-Fr polyurethane double-J stent. In two patients we performed direct technique of UCN. Tube drains were used routinely and removed when 24-hour drainage was less than 20 ml. The Foley catheter removed between 5–10 days, and the double-J stents after 4 weaks. Graft function was monitored by daily serum biochemestry and urine output. All episodes of urinary leakage, obstruction, stent-related problems and UTI were recorded.
Results: There were 34 complications in 31 patients, an incidence of 13.0%. The incidence of ureter-related major complications rate was 3.5%, the incidence of UTI was 8.9%, retention after removal of urinarny catheter was noted in 1 (0.4%) patient, and urethral stricture was developed at 1 (0.4%) patient. Urinary leakages occured in 5 cases. In one patient we made revision because of a large urinoma and significant leakage from pyelon. Suture of pyelon was performed. The rest 4 cases were treated conservatively with delayed removal of double-J stent and prolonged bladder catheterisation. Overal 4 patients had hydronephrosis due to extinsinc pressure of