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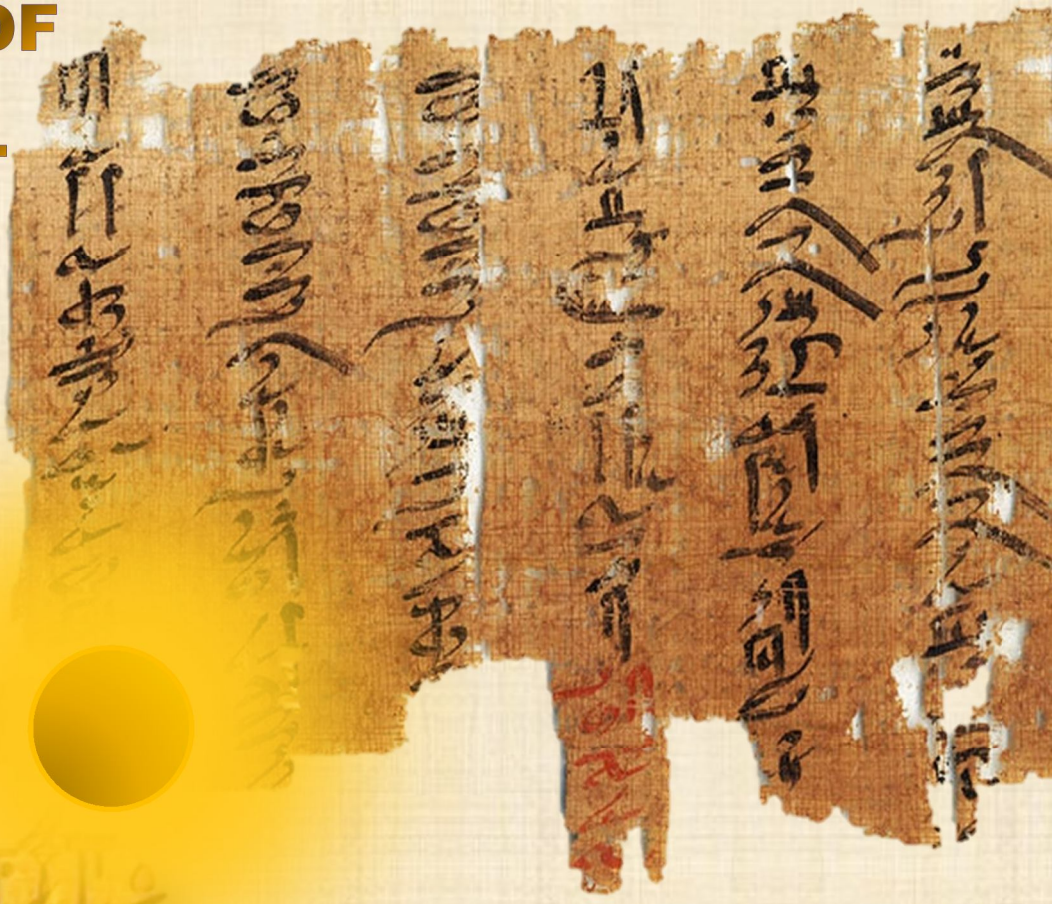

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Original article

Simultaneous Open Radical Bilateral Nephroureterectomy and Cystoprostatectomy

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ABSTRACT

Background: Synchronous bilateral urothelial tumors of the upper urinary tract are extremely rare. However, their treatment is a real challenge for urologists. Patient with low grade superficial urinary bladder tumor can be treated by endoscopic procedures. But they need to be put onto a surveillance program for superficial bladder cancer. In the case of high grade, invasive or large volume or multifocal tumors, radical bilateral nephroureterectomy with cystoprostatectomy is considered the standard of care.

Here, We present a case of multifoci high grade tumor of bilateral renal pelvis and ureters in a patient with history of high grade superficial bladder cancer who was treated endoscopically for thirteen years. Most recently, bladder growth recurred aggressively and widely over the last six months and this was treated by single-stage Simultaneous Open Radical Bilateral Nephroureterectomy and Cystoprostatectomy. **Our aim** was not only to present the operative technique but also to show that the procedure is safe and effective modality of treatment. The open approach was preferred due to its advantage of shorter operative time. In addition, the decision was based on team consultation [Patients, Surgeon and Anesthetist]. The outcome was satisfactory and safe. Thus, the one setting [simultaneous] open approach is considered safe and effective. However, we do not against laparoscopic approach, but we encourage individualization [case by case] of the procedure for each patient according his clinical situation and after counselling of all members of the team.

Keywords: Simultaneous; Radical; Nephroureterectomy; Prostatectomy; Cystoprostatectomy.

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* Main subject and any subcategories have been classified according to research topic.

INTRODUCTION

The upper urinary tract tumors occur in 2-4% of patients suffering from bladder cancer [1, 2]. However, bilateral tumors are very rare. Up to 2004, Holmaeng and Johansson reported that, about 30 cases of bilateral tumors were discovered in the reviewed literature. They followed up 15 of such patients for up to 27 years[3]. The low-grade, low stage bilateral tumors usually treated by endoscopic interventions. However, high-grade, invasive, bilateral tumors were usually treated by radical nephroureterectomy with cystectomy or cystoprostatectomy[4,5]. The aim of the current study to present our experience and provide proof that, the operative technique seems to safe and effective. Literature had few published articles on bilateral intervention either open or laparoscopic. In nearly all described cases, the nephroureter-ectomy was confined to patients with bladder tumors who were dialysis-dependent [5-7].

Description of the Case

The patient:

A 76 years old man with history of bladder tumor, which was determined to be transitional cell carcinoma (TCC), pT1 grade 3 when he presented with gross hematuria in 2004. Intravesical immunotherapy had been completed in 2004 and since then the patient had been regular with his follow up. Cystoscopy with mapping biopsy performed at presentation did not reveal any carcinoma in situ (CIS) in the bladder. After 13 years of follow-ups, recurrences were treated endo-scopically then the patient developed multiple large recurrences. In the bladder at this stage, computed tomography [CT] scan was done and revealed large volume bilateral renal pelvis and ureteric tumours (Figure 1). Urine cytology indicated cancer cells in all three samples. CT scan of the Chest, Abdomen and Pelvis revealed no tumor metastasis. Bilateral ureterorenoscopy confirmed large volume tumors in both pelvices. Retrograde pyelography carried out during ureterorenoscopy supported the diagnosis. The patient was then qualified for surgical treatment after discussion in our multidisciplinary meeting, i.e. Open Radical bilateral Nephroureterectomy combined with Cystoprostatectomy.

Operative techniques

Operative time was 3 hours. The patient was placed in a supine position. The procedure started on with the most versatile abdominal incision in the midline within the bony limits of the sternal xyphoid process above and pubic symphysis below, a smooth curve was made around the umbilicus. The midline is incised through the skin and subcutaneous tissue to expose the linea Alba. This structure is identified by the decussating fibers between the bellies of the two recti abdomini. Starting with the left kidney, the dissection of the white line of Told was carried out and the splenic flexure was mobilized. The left ureter and the lower pole of the left kidney were retracted laterally to facilitate access to the renal hilum. Once freely dissected, the renal artery was doubly ligated and transected the renal vein was secured by an Endo-GIA stapling device. Using multiple manoeuvres, blind and sharp dissection also we used the Liga-Sure device and monopolar diathermy. Symmetrically to the ones used in the left nephroureterectomy. Again, the colon was mobilized medially and the ureter, as well as vena cava were localized. After the lower pole of the right kidney was freed, the kidney covered by the perirenal fat and Gerota's fascia was moved laterally and the renal vessels were identified. The upper pole of the kidney was fully mobilized. The lateral attachments were dissected to completely free up the kidney. The ureter was dissected as distally as possible; the renal specimens was kept attached. and left in the peritoneal cavity. The renal artery and vein were secured. We proceeded to Cystoprostatectomy while the patient was in same position and surgical field which was prepared and draped once. The bladder and prostate were separated from the anterior wall of the abdomen and dissected anteriorly up to the prostatic apex. The endopelvic fascia was incised on both sides. The lower parts of both ureters were dissected. Subsequently the lateral peritoneal wings with vas deferens were transected using Liga-Sure device. The Dennonvilliers fascia was transected and the vesicoprostatic segment was separated from the anterior wall of the rectum. The operation proceeded with the transection of superior and inferior bladder pedicles using a Liga-Sure device which was used to Santorini plexus, transecting the prostatic apex and the urethra. After removing the intact specimen Robinson's drain to the pelvis. We did not perform pelvic lymphadenectomy. The blood lost was 1250 ml, four units of compatible blood was transfused intraoperatively. There were no intraoperative complications

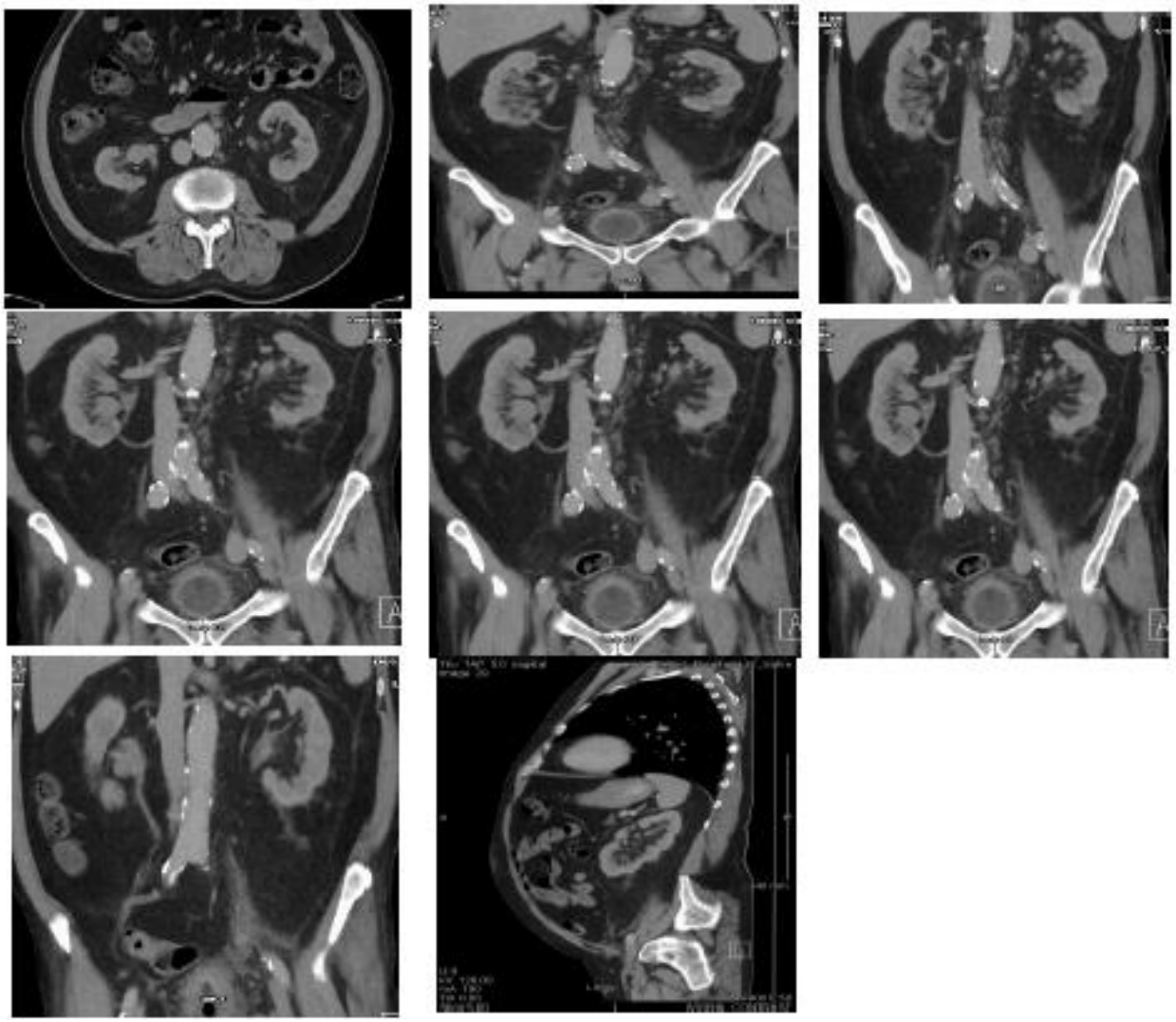

Figure [1]: CT Scan of the Chest, Abdomen and Pelvis shows large volume bilateral renal pelvises and ureteric tumours Abdomen and Pelvic no tumor metastasis

Postoperative course: Patient was sent to HDU postoperatively Since the 2nd postoperative day the patient started haemodialysis. No temperature rise was noted postoperatively. The time to resume oral intake was 2 days. The pelvic drain was removed on the 3rd day after the surgery. The patient was discharged from urology care to nephrology service on the ninth day after the operation.

Histopathology: Multifocal transitional cell carcinoma, TNM stage PT1 NX. (UICC 7th Edition) Focal prostatic adenocarcinoma, Gleason 3+4. We do have five pathologies: 1) Bladder: extensive transitional cell carcinoma, grade 2-3: with no involvement of the lamina propria. Prominent adjacent, previous biopsy site, with foreign body giant cell reaction extending into the surrounding fat, with associated fat necrosis. 2) Left ureter and left calyx: Transitional cell carcinoma in situ present in the distal ureter with no invasion. Extensive high grade, grade III. 3) Transitional cell carcinoma involving the left renal calyx. No definite invasion identified. 4) Right ureter and right calyx: Moderate dysplasia in the distal ureter. The right calyx shows high grade transitional cell carcinoma, grade 3, invading into lamina propria. No lymphovascular invasion identified. 5) Prostate: The prostate demonstrates prostatic ureteric transitional cell carcinoma with no invasion into the surrounding prostatic stroma. There is also focal prostatic adenocarcinoma, Gleason grade 3+4. Background left kidney shows chronic pyelonephritis and arteriolar sclerosis

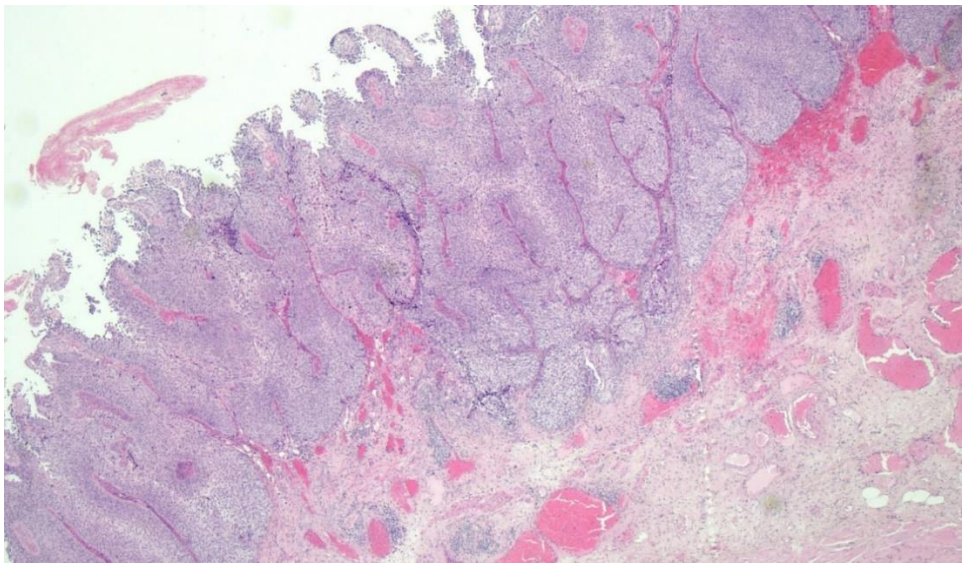

Figure [1]: Pictured at 2X is the TURBT taken in November 2016. Shown is an area of high grade (3/3) papillary urothelial carcinoma without definite invasion of the lamina propria

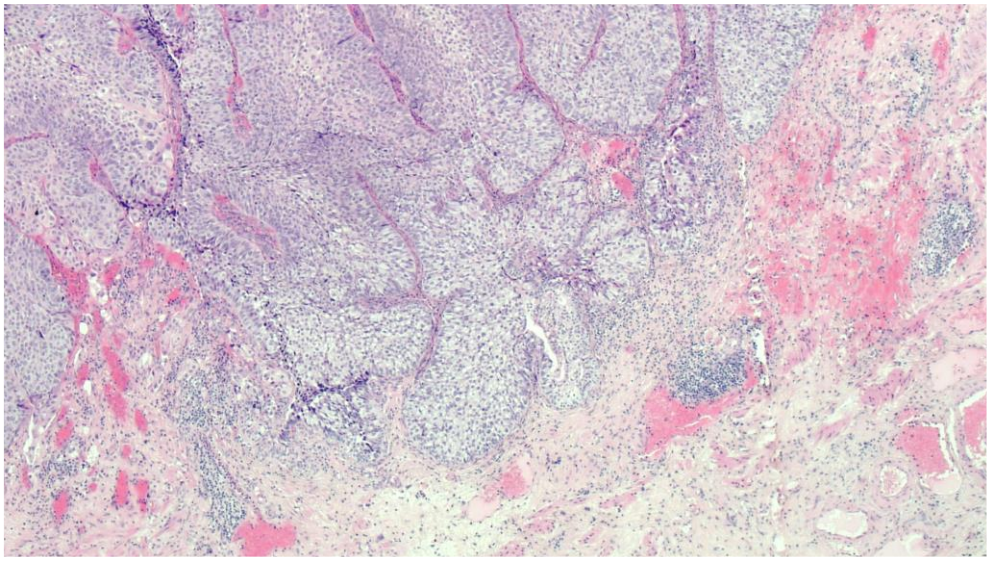

Figure [2]: Pictured at higher power 4X is the TURBT taken in November 2016. Shown is an area of high grade (3/3) papillary urothelial carcinoma without definite invasion of the lamina propria.

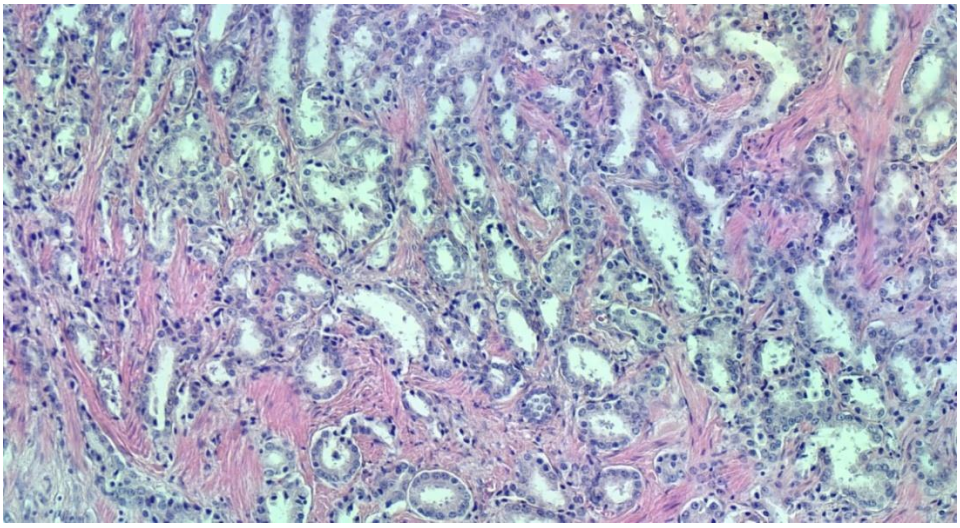

Figure [3]: Pictured at 10X is the presence of prostatic adenocarcinoma, Gleason grade 3 + 4.

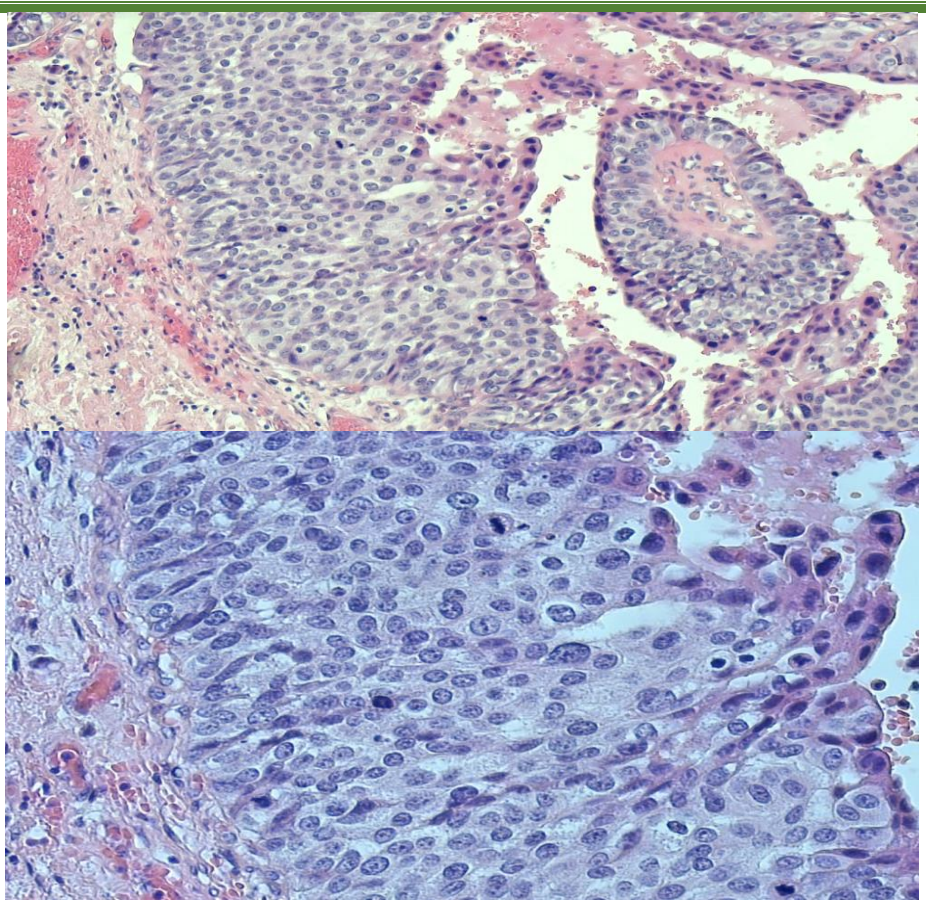

Figure [4a; upper and 4b: lower]: This is the left ureter showing papillary urothelial carcinoma, high grade (3/3) without invasion

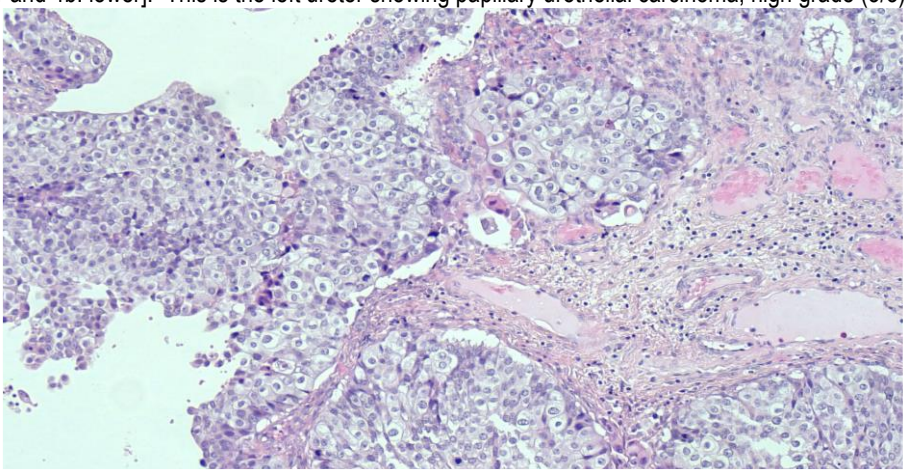

Figure [5]: Pictured at 10X is the left calyx showing papillary urothelial carcinoma, high grade 3/3.

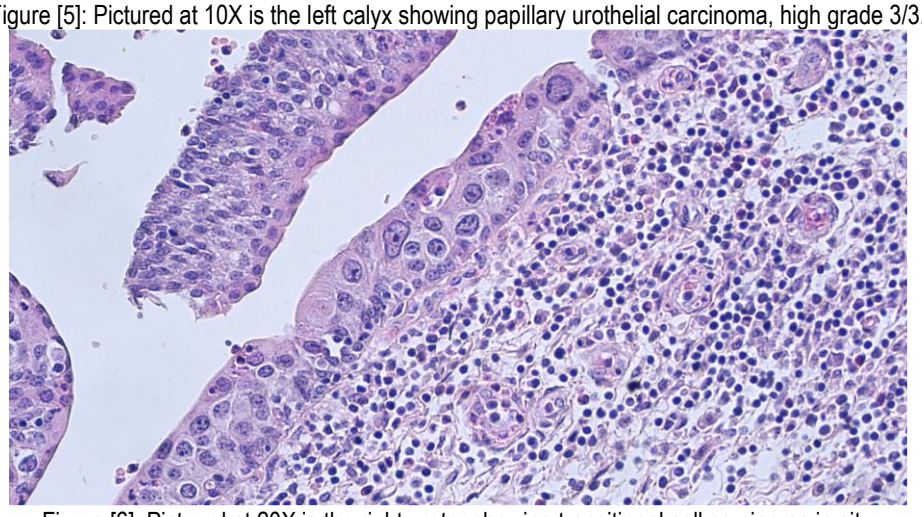

Figure [6]: Pictured at 20X is the right ureter showing transitional cell carcinoma in situ

DISCUSSION

Dialysis represents a solution for patients with end stage renal disease regardless of the cause of renal failure. However, it affects both patients' quality of life, had a financial burden and usually associated with many complications. The renal replacement intervention represents a reasonable alternative. It made radical surgical intervention possible for bilateral tumors of the upper urinary tract. The bilateral open nephroureterectomy and cystectomy [as a combined intervention] has already been described and seems to efficient and safe [4, 8]. Bilateral laparoscopic approach had been described. However, it was confined for patients with bladder cancer and ESRD on haemodialysis [5,6]. The laparoscopic approach results in reduction of blood loss, shorter hospital stay, less analgesic prescription with good recovery. The cancer cure rate is comparable to open approach[9]. However, in the current case, we selected the open approach, as it is usually associated with shorter operative time (3.5 hours in average compared to 7.5 of laparoscopic approach) after carful team counselling [patient, surgeon and the anaesthetist]. Another point is that, we decided to perform lymph node dissection. Irrespective of that, the benefit of lymphadenectomy on patient survival during nephroureterectomy is questioned. In addition, we consider previous reports on the higher risk of metastasis in such tumors of higher grade[10]. Two aspects seem noteworthy. Firstly, it is important to remove the entire En-block specimen in order to prevent any urinary spillage during the operation. Secondly, dissection of the upper poles of the kidneys should be performed very carefully to prevent injury to both adrenal glands and thus to avoid steroid insufficiency[11].

We did not decide to carry out urethrectomy, because preoperative cystoscopy, as well as mapping biopsy had not revealed a carcinoma in situ which makes it necessary to, carefully observe the patient and to carry out urethral washings.

Conclusions:

Simultaneous, open bilateral nephronureter-ectomy with cystoprostatectomy is a safe intervention in the management of simultaneous high stage and high grade upper and lower urinary tract tumors.

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REFERENCES

1. **Oldbring J, Glifberg I, Mikulowski P, Hellsten S.** Carcinoma of the renal pelvis and ureter following bladder carcinoma: frequency, risk factors and clinicopathological findings. J Urol. **1989** Jun; 141 (6):1311-3. doi: 10.1016/s0022-5347(17)41291-2.
2. **Palou J, Rodríguez-Rubio F, Huguet J, Segarra J, Ribal MJ, Alcaraz A, Villavicencio H.** Multivariate analysis of clinical parameters of synchronous primary superficial bladder cancer and upper urinary tract tumor. J Urol. **2005** Sep;174(3):859-61; discussion 861. doi: 10.1097/01.ju.0000169424.79702.6d.
3. **Holmäng S, Johansson SL.** Synchronous bilateral ureteral and renal pelvic carcinomas: incidence, etiology, treatment and outcome. Cancer. **2004** Aug 15;101(4):741-7. doi: 10.1002/cncr.20395.
4. **Holton MR, Van Zijl PS, Oberle WT, Jacobs SC, Sklar GN.** Complete urinary tract extirpation: the University of Maryland experience. Urology. **2006** Jul;68(1):65-9. doi: 10.1016/j.urology.2006.01.045.
5. **Barros R, Frota R, Stein RJ, Turna B, Gill IS, Desai MM.** Simultaneous laparoscopic nephroureterectomy and cystectomy: a preliminary report. Int Braz J Urol. **2008** Jul-Aug;34(4):413-21; discussion 421. doi: 10.1590/ s1677-55382008000400003.
6. **Berglund RK, Matin SF, Desai M, Kaouk J, Gill IS.** Laparoscopic radical cystoprostatectomy with bilateral nephroureterectomy: initial report. BJU Int. **2006** Jan;97(1):37-41. doi: 10.1111/j.1464-410X. 2005.05897.x.
7. **Yuan LH, Chung HJ, Chen KK.** Laparoscopic radical cystectomy combined with bilateral nephron-ureterectomy and specimen extraction through the vagina. J Chin Med Assoc. **2007** Jun; 70(6):260-1. doi: 10.1016/S1726-4901(09)70371-5.
8. **Wu CF, Shee JJ, Ho DR, Chen WC, Chen CS.** Different treatment strategies for end stage renal disease in patients with transitional cell carcinoma. J Urol. **2004** Jan; 171 (1): 126-9. doi: 10.1097/01.ju.0000101758. 41635.28.
9. **Gill IS, Sung GT, Hobart MG, Savage SJ, Meraney AM, Schweizer DK, Klein EA, Novick AC.** Laparoscopic radical nephroureterectomy for upper tract transitional cell carcinoma: the Cleveland Clinic experience. J Urol. **2000** Nov;164(5):1513-22. PMID: 11025694.
10. **Seisen T, Shariat SF, Cussenot O, Peyronnet B, Renard-Penna R, Colin P, Rouprêt M.** Contemporary role of lymph node dissection at the time of radical nephroureterectomy for upper tract urothelial carcinoma. World J Urol. **2017** Apr;35(4):535-548. doi: 10.1007/s00345-016-1764-z.
11. **Guzzo TJ, Schaeffer EM, Allaf ME.** Laparoscopic radical nephroureterectomy with en-bloc distal ureteral and bladder cuff excision using a single position pneumovesicum method. Urology. **2008** Oct; 72 (4): 850-2. doi: 10.1016/j.urology.2008.05.052.

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