

KIDNEY CELL CARCINOMA – ENUCLEATION AND STANDARD NEFRECTOMY IN THE TREATMENT OF BILATERAL MALIGNANT KIDNEY TUMORS

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ISSN 0350-364X

DOI: 10.5457/649

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ABSTRACT

Introduction: The golden standard in surgery is the one that spares most of the kidney tissue.

Objective: Show a case of a bilateral kidney tumor that has been treated in our medical facility in which we used two surgical procedures to successfully treat a bilateral kidney tumor.

A case report: We are reporting about a case of a bilateral kidney tumor that has been properly treated using a successful surgical procedure, in a way which the lifespan of the patient has been prolonged, but also their quality of life has been improved without a use of supported medical treatments.

Key words: bilateral malignant kidney tumor, surgery that spares kidney tissue.

INTRODUCTION

Nephron sparing surgery (NSS) is the golden standard in the treatment of renal cell carcinoma (RCC) Tr¹, because in comparison to radical nephrectomy (RN) it has a longer lasting benefit on the function of the kidneys and the cardiovascular system^{1, 2}. The overall occurrence of „positive surgical margins“(PSM) is in 0% to 7% of patients that have been subjected by NSS, without a big difference in open, laparoscopic and robot assisted techniques^{3, 4, 5}.

CASE REPORT

At the Clinic of urology JZU UKC Tuzla, a 66 year old woman has been hospitalised because of a noticeable enlargement of the abdomen and occasional pain in the loins. By the use of objective examination a large tumor mass has been verified in the left half of the abdomen, painless to palpation. On the Ultrasound, Siemens Acusson X150, a giant tumor mass is verified in the left hemiabdominal region with unrecognizable kidney tissue and a large tumor mass of the right kidney. With a CT finding (Siemens Somatom Sensation 64) a large lesion is confirmed on the left kidney with the dimensions of 180x130x200 mm (antero-posterior, latero-lateral, cranio-caudal), mostly hipodense with smaller hyperdense regions which some of them

fit with the calcifications while there are also smaller hemoragic zones. The legion propagates with the inner contour of the frontal left abdominal wall which it lightly lifts, it leans on and compromises the left psoas muscle, supresses and spreads the intestinal winding, supresses the body and tail of the pancreas and the retroperitoneal vascular structures, and also the same CT characteristics of the legion in the parenchyma of the right kidney with the dimensions of 90x80 mm (picture 1. and 2.).



Picture 1. CT finding: Tumor of both kidneys



Picture 2. CT of the liver and right kidney

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Received:

05.05.2022.

Accepted:

15.11.2022.

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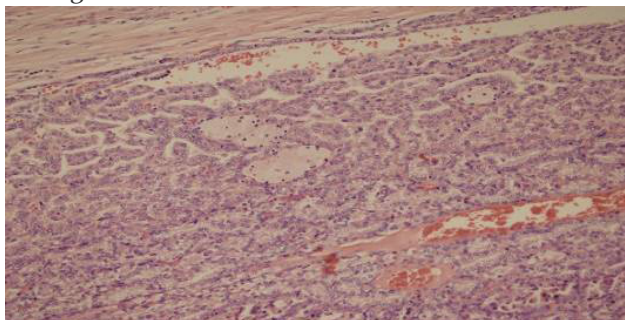
Funding:

none

Competing interests:

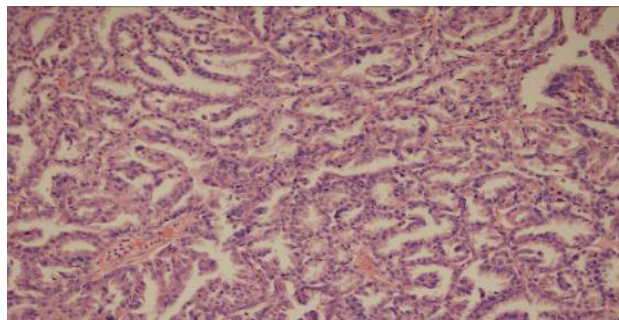
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In the parenchyma of the liver, mostly in the left lobe, a few hypodense densities of fluid have been registered, with the biggest one having a radius of 33 mm, a bigger one with CT characteristics of a cyst, a smaller insufficiently CT characterized, they look like cysts, but monitoring is needed.

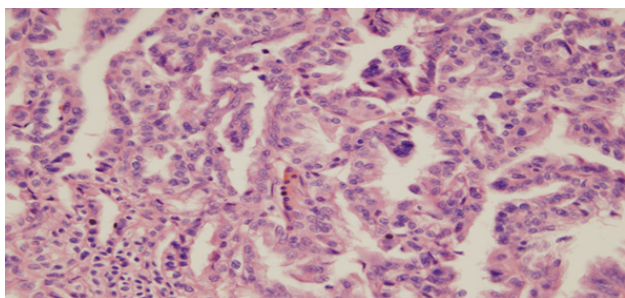


Picture 3. PHD: Carcinoma renocellulare papilare partim nectroticum renis

In the infirmary a biopsy of the left kidney tumor is done with the ultrasound. (PHD of the left kidney – Carcinoma renocellulare papilare partim nectroticum renis gradus 2 (WHO, ISUP), pT2b pNx pNx (picture 3).



Conciliatory a treatment in two acts is initiated. In the first one a nephrectomy of the left kidney is done, a left expanded subcostal laparotomy is marked. You go inside the abdomen and record the large tumor of the left kidney. Dissection is made more difficult. The access to the hilus of the left kidney is through the mesocolon. We dissect the renal vein by ligaturing, resecting and sews with strings, Prolen 4.0. Then we dissect the renal artery by clamping it, resecting and ligaturing with one suture and a few free ligatures. Then we proceed towards the tumor modified left kidney, left paracolic, then the colon is changed with the according mesocolon. The left ureter is found and is ligurated and resected. The left adrenal gland is removed. Then on the third segment of the liver cysts are identified. A consultation with an abdominal surgeon is done, then a partial resection of the third section of the liver with a harmonic scalpel with liguration of the bigger blood vessels. Because of a suspicion of a metastatic change on the liver, a partial resection of the third segment of the liver is done (PHD liver – the biliary cystadenom joint with a polycystic changes of the liver and biliary microhamartomom) (picture 4).

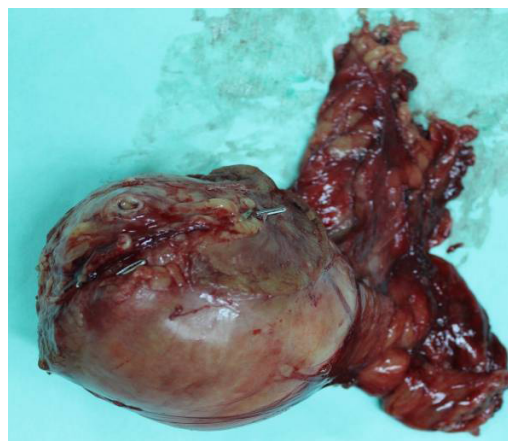


Picture 4. PHD liver - the biliary cystadenoma joint with a polycystic changes of the liver and biliary microhamartoma

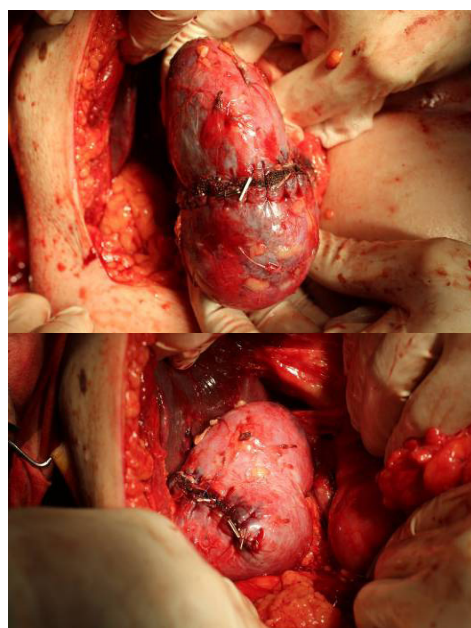
Postoperative laboratory results: urea:10,91 mmol/L (referral 3.5 – 7.2), creatinin: 132 umol/L (53 – 106), and clear results in ABS and KKS.

After the patient has recovered, a second surgical procedure is initiated in which an excision is performed on the tumor of the right kidney (picture 5), and then

a reconstruction is done on the remaining part of the kidney (patohistological results: Carcinoma papillare invasivum renis, WHO ISUP (Furhman) G1; pT2a (sub-type 1 papillary renal carcinoma)⁶ (picture 6a and 6b)).



Picture 5. Removed tumor mass of the right kidney



Picture 6a and 6b. Reconstructed the rest of the right kidney

Postoperative diuresis 1300 ml/24 hours, right cornel: 650 ml/24 hours. During the observation, the patient was respiratory and hemodynamically stable. RR: 160/88 mmHg; Cp: 90/min; and with the agreement of the urologist, the patient is moved from the ICU to the Clinic of urology. When the laboratory results come (ABS: pH 7.41, HCO₃ 19.6; Hgb 110 g/L (referral 119-157 g/L), Tr 166x10⁹/L (158-424), Le 6,3 x 10⁹/L (3.40 - 9.70), SIB 7.9, urea 20,8 mmol/L (2.9-8.2), kreatinin 563 umol/L (53-106), Na 134 mmol/L (136-145), Ca 2,13 mmol/L (2.20-2.55), P 1.84 mmol/L (0.66-0.99), CRP 140 mg/L (<5.0), consultations are done with a nephrologist, he suggests a conservative treatment with enough fluid compensation, antibiotic therapy and diuretics.

Because of prolonged secretion of clear fluid on the cornel, until the laboratory results confirm a higher creatinin value in the cornel (1.112.00 mmol/dU, referral 5.3-13.3 mmol/dU), suspicions are on the postoperative fistula of the kidney, that is taken care of by placing a uretral stent. The stent is removed after 2.5 months.

10 days after the operation the values of the creatinin are 170 umol/L, urea 11,1 mmol/L, ABS, Na, K, Ca are fine, with a light anemic syndrome: Er 3,8 x 10¹²/L (3.86-5.08), Hgb 107 g/L (119-157), Hct 0.3 L7L (0.356-0.470).

The MRI scan didn't show any residue of the primary tumor process and any noticeable secondary deposits. One year later a planned control examination with the CT of the thorax, abdomen and pelvis (The state after a nephrectomy and adrenalectomy left and excision of the tumor legion of the right kidney. Colon curves are interposed in the left kidney lobe without a certain CT signs of a local recidiv of the tumor process. In the middle third of the right kidney there are multiple operative clips with the inhomogeneity of the local parenchyma - consequently caused by artifacts. In the upper pole laterally a minor cystic area of 5 mm, considering the main illness, monitoring is needed and correlation with older performed examinations. In the liver parenchyma there are a few hypodense areas up to 25 mm, bigger cysts of CT characteristics, smaller insufficiently CT characterized, they are of cyst characteristics but further monitoring is needed. The thorax scans have shown a few nodes up to 4 mm in the lung parenchyma of the lower lobe to the right, that could not only indicate postoperative inflammation but also secondary deposits and as such monitoring is needed. There are no pleural leaks. In the mediastinum pretracheal a lymphnode up to 11 mm, on which there were no signs of secondary deposits.) From the parameters for the kidney functions creatinin is registered to be 140 umol/L.

DISCUSSION

It is known that nephron sparing surgery (NSS) presents a golden standard in the treatment of renal cell carcinoma (RCC) Tr. This way of treatment has a

longer lasting benefit on the function of the kidneys and the cardiovascular system^{1, 2}. In the case of our patient a consilary way of treatment was considered, and with suggestions of the European association of urological manual for renal cell carcinoma (EAU)³, a decision was made to do a full nephrectomy⁷, and because of a metabolic change a partial resection of the third segment of the liver. When the patohistological results came in the second act, a surgical procedure was done with the excision of the tumor mass of the right kidney, after which a reconstruction was made on the remaining parts of the kidney^{6, 7, 8}.

In the following postoperative period there weren't any bigger surgical complications except the fistulatisation of the kidney which was treated by stent application. On further examinations there weren't any metastatical complications registered in the primary illness.

CONCLUSION

In accordance with a good clinical response of the patient with a solitary kidney, kidney sparing surgery should be insisted, if it's in the boundaries of the EAU manual and if the location of the tumor and oncological status allows it as well.

This shows and confirms that a teamwork involving a urologist, radiologist, patologist, anesthesician, nephrologist and oncologist, with accordance to the EAU manual, in a patient with a bilateral kidney tumor, a surgical procedure can be performed that spares the kidneys and that way improves the quality of life and the lifespan of the patient.

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