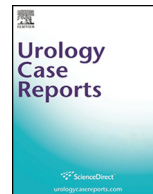




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## Oncology

## A rare case of Bellini duct carcinoma

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## ABSTRACT

We present a rare clinical case of renal cell carcinoma from the collection tubules-carcinoma of Bellini. A 69 years old patient, enters in our department with symptoms of massive hematuria. From the studies carried out blood tests, CT and cystoscopy there are no data of neo process of lower urinary tract, but shows horseshoe-shaped kidney, cystic deformation of the left kidney and aortic dissection. A left radical nephroureterectomy was performed, with preoperative diagnosis of renal tumor at stage T3. The histopathological diagnosis was Bellini duct carcinoma of papillary tubular type. The patient currently remains disease-free.

## Introduction

The carcinoma of the collection tubules is rare, and its incidence is less than 1% of malignant neoplasms of the kidney. Most often, its origin is from the epithelial cells of the proximal collection tubules, but it can lead to its origins from the distal collection tubules. It is located in the central areas of the kidney (medulla), growing to the cortex and renal pelvis. It is characterized by high malignancy, early metastasis and poor prognosis.

## Case presentation

A 69 years old patient was admitted in our department with hematuria, anemic syndrome, pre-cardiac surgery on the occasion of surviving aortic dissection. Performed diagnostic procedures were ultrasound which visualized a solid tumor formation on the left kidney with irregular shape, in the made CT, a horseshoe-shaped kidney was found, and a formation of a left kidney with involvement of the adrenal gland and the same was in a function Fig. 1. A cystoscopy was performed and bleeding from the left ureteral ostium was seen. The patient was placed on a clinical discussion and decided on a radical transperitoneal nephroureterectomy with preoperative diagnosis-tumor of left kidney T3 stage.

Clinical course: Intraoperatively the diagnosis from the CT scan was confirmed and radical nephroureterectomy was performed, with cutting of the parenchymal bridge above the aorta. A kidney with a pronounced perinephral reaction was found near the aorta. After removing the kidney, macroscopic is found a kidney with cartilage density. After

cutting the kidney a tumor formation was seen with a grayish-coloured color, originating from the medullary part and infiltrating the cortex and the renal pelvis. There were ascended formations, without necrotic and haemorrhages. The kidney was sent for histological examination. The sent material confirms the preoperative and macroscopic diagnosis of carcinoma of the collection tubules-Bellini duct carcinoma, with pronounced desmoplastic stromatic reaction with hyalalation and nuclei of ossification, pronounced cellular atypia of the epithelium of the collection tubules. Immunohistochemical found a strong positive signal for cytokine 7, 34 Be12, moderate intensity of EMA, and negative reaction for vimentin Fig. 2.

The postoperative clinical course and recovery was good, and the patient was currently alive and disease free, 12 months after surgery.

## Discussion

Malignant neoplasms of the kidney represent about 3% of all malignant tumors in human, the most frequent option is kidney cell carcinoma-about 85%–90%. The remaining 10%–15% are atypical and various, assuming heredity for their development. These include: Carcinoma of the collection ducts (Bellini cancer), urinary carcinoma, Metanefroma adenosacralis, embryonic adenoma and sarcomas.<sup>1</sup>

The carcinoma of the collection tubules accounts for about 1% of all neoplasms of the kidney. More than 100 cases have been described, which makes it clear that it is observed in an age range of 18–83 years, with a male-to-female ratio of 2:1. The first report on Bellini carcinoma originating from the epithelium of the collection tubules was written by Mancilla-Jimenez, based on atypical hyperplastic change in renal

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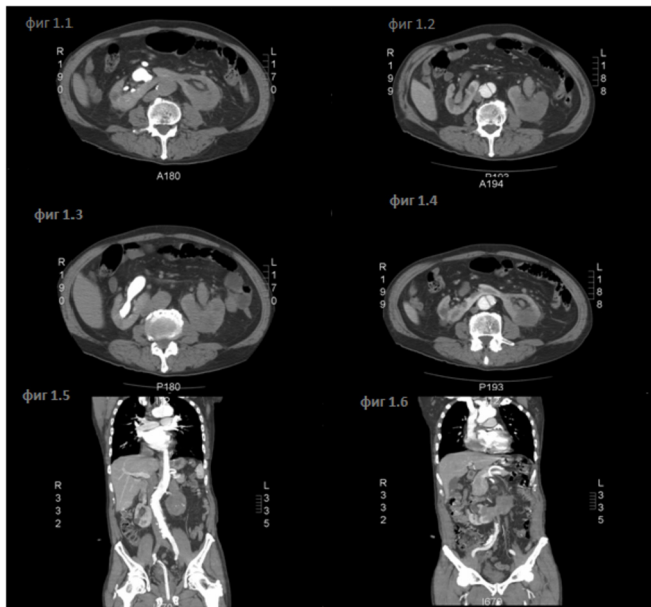


Fig. 1. CT scan-tumor mass of the left kidney.

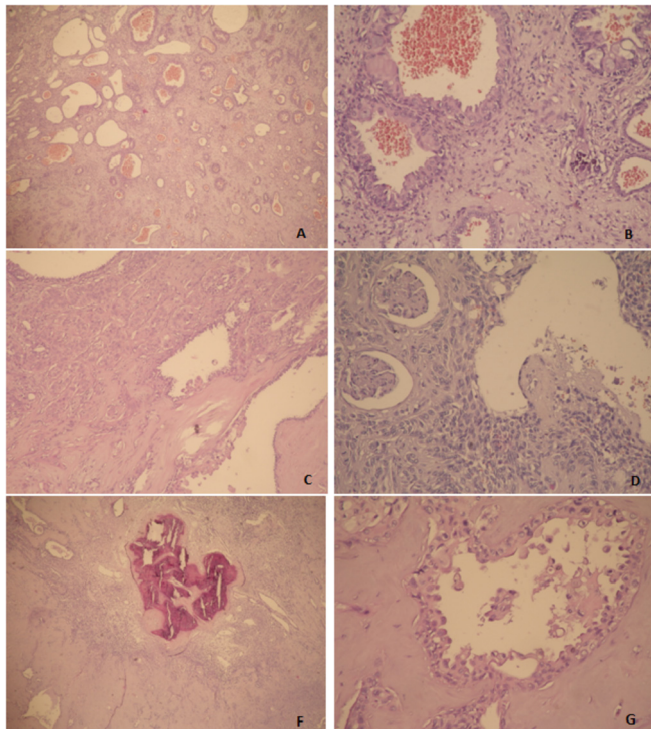


Fig. 2. Histopathology image of Bellini duct carcinoma.

separated Bellini duct carcinoma as a separate histological variant of kidney cancer, with a clinical picture undistinguishable from that of the other kidney tumors<sup>2, 3</sup>.

Macroscopic is characterized by a centrally located gray-whitish tumor mass, cartilage to bone consistency, necrosis zones and nodal formations. Bellini's carcinoma is characterized by rapid growth of renal medulla, early infiltration of the cortex and the surrounding fat capsule, adrenal gland and early metastasis in the renal vein, regional lymph nodes, bones, lung and liver.<sup>4</sup>

### Conclusions

In conclusion, it can be said that Bellini duct carcinoma is a rare form of malignant renal tumor with high malignancy and poor prognosis. When the diagnosis is made, in most cases there are already metastases, although they may not be found in routine examinations. It is characterized by resistance to chemotherapy and a rare survival up to 2 years after surgery. Detailed, long-term follow up to detect local recurrence or distant metastasis is also necessary.

### Conflicts of interest

The authors declare that they have no competing interests.

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