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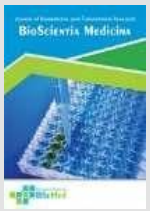

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Papillary Renal Cell Carcinoma Type 1 Accompanied by Hemorrhagic Anemia: A Case Report

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A B S T R A C T

Background: Kidney cancer or renal cell carcinoma (RCC) accounts for 5% and 3% of all adult malignancies in men and women, respectively, thus representing the 7th most common cancer in men, and the 10th most common cancer in women. The incidence of kidney cancer in the last two decades has shown an increase, but in recent years the death rate due to kidney cancer has decreased because it is increasing. **Case Presentation:** A 27 year old male patient came with complaints of bloody urination. Patients also complain of body weakness. Every time they are active, the weakness decreases if the patient rests. The patient was stated to be suffering from anemia and a left kidney tumor. There was bilateral antebrachial pitting edema. There was bilateral pretibial edema. Cytological examination revealed papillary renal cell carcinoma type 1. **Conclusion:** Papillary cell carcinoma type 1 is a kidney tumor that has a good prognosis, especially if found at an early stage. The classic symptoms of type 1 pRCC are anemia, hematuria and kidney swelling.

1. Introduction

Kidney cancer accounts for 5% and 3% of all adult malignancies in men and women, respectively, thus representing the 7th most common cancer in men and the 10th most common cancer in women.[1]. However, the available statistics include not only renal parenchymal tumors but also renal pelvic urothelial cancer. Renal cell carcinoma (RCC) accounts for 80% of all kidney cancers. After more than two decades of increasing trends in the incidence of RCC worldwide, it has shown signs of increasing in recent years. Furthermore, kidney cancer mortality rates are reportedly decreasing. This pattern suggests that there is a downward shift in staging and tumor size. This is due to the increasingly widespread use of non-invasive radiological techniques such as ultrasonography (US)

and computed tomography (CT), which make it possible to carry out early detection and staging of RCC at an early stage, which has the potential to be cured.[1,2]

Renal cell carcinoma (RCC) shows the 9th highest incidence among all cancers worldwide and is an urgent problem in modern oncology.[2] RCC due to germline mutations is a hereditary cancer syndrome that only occurs in a few percent of all RCC cases but has several distinctive characteristics, both from a clinical point of view (early manifestation, bilateral or multifocal tumors, and tumor type characteristics) and molecular genetics. Thus, it is important to collect and systematize information about relevant mutations and their phenotypic expression. Approximately 10 forms of monogenic hereditary RCC have been described to date and can be diagnosed by direct DNA testing.[1] In particular, in hereditary papillary kidneys,>50% of RCCs are now detected incidentally, making the classic triad of low back pain, gross hematuria, and palpable abdominal mass less common than in the past. Despite this, RCC remains a 'cancer of internal medicine' with paraneoplastic syndromes such as hypercalcemia, unexplained fever, erythrocytes, and Stauffer syndrome (signs of cholestasis not associated with tumor infiltration of the liver or intrinsic liver disease, which usually resolves after resection kidney tumor) is still present.[2]

2. Case Presentation

A man, Mr. AI, 27 years old, not married, Muslim, Diploma of nursing, private, address in Lubuk Linggau. was treated at the Kidney Hypertension Department, Department of Internal Medicine, Dr. Mohammad Hoesin General Hospital (RSMH) Palembang, Indonesia, on February 1st, 2022, with the main complaint of reddish urination for 1 week before entering the hospital.

Figure 1. Patient condition.

From the results of autoanamnesis and alloanamnesis, since March 2018, the patient and the patient's biological mother have experienced slightly reddish urination of approximately 100 mL, frequency 3-4 times/day. The patient does not complain of pain when urinating. There is fever, without coughing or shortness of breath, eyes no yellow, often canker sores. The patient also complained of puffy eyelids, especially when he woke up in the morning and less during the day, urinating as if there were blood clots and defecating as usual. Patients also complain of body weakness. Every time activity, weakness decreases if the patient rests. The patient was stated to be suffering from anemia and a left kidney tumor. The general condition appears to be moderately ill, conscious compassion mentis, blood pressure 130/90 mmHg, pulse 78 times/minute with adequate and regular tension, respiratory rate 20 times per minute, axillary temperature 36.8°C. Check-up result anthropometry was 169 cm tall and weighed 56 kg with a body mass index of 19.6. There was bilateral antebrachial pitting edema. There was bilateral pretibial edema.

Table 1. Results of routine blood and chemical laboratory examinations.

	31/1/22	3/2/22	23/5/22
Hb	8,2	9,8	14,4
Erythrocytes	3,32	3,81	5,24
Leukocyte	10.51	8,14	8,78
Hematocrit	27	31	44
Platelets	447	418	220
MCV	82,2	81,4	84,7
MCH	25	26	28
MCHC	30	32	32
DC	0/1/66/22/11	0/0/90/8/2	0/6/50/36/8
CA	7,2		8,3
Corrected Ca	8,2		8,6
SGOT	13		-
SGPT	14		-
Urea	26		28
Creatinine	0,72		7,3
Na	143		135
K	4,6		4,8

Table 2. Results of urinalysis examination.

	1/2/2022	8/3/2022
Color	Yellow	Light yellow
Clarity	A bit cloudy	Clear
Specific gravity	1,015	1,020
pH (urine)	6,0	6,0
Protein	Positive +	Negative
Ascorbic acid	Negative	Negative
Glucose	Positive ++	Negative
Ketones	Negative	Negative
Blood	Positive++	Negative
Bilirubin	Negative	Negative
Urobilinogen	4	-
Nitrite	Negative	Negative
Leukocytes esterase	Positive +	-
Urine sediment		
Epithelium	Positive	1-2
Leukocytes	8-10	3-4
Erythrocytes	90-100	6-10
Cylinder	Granular +	Negative
Crystal	Negative	Negative
Bacteria	Negative	-
Mucus	Negative	-
Fungus	Negative	-

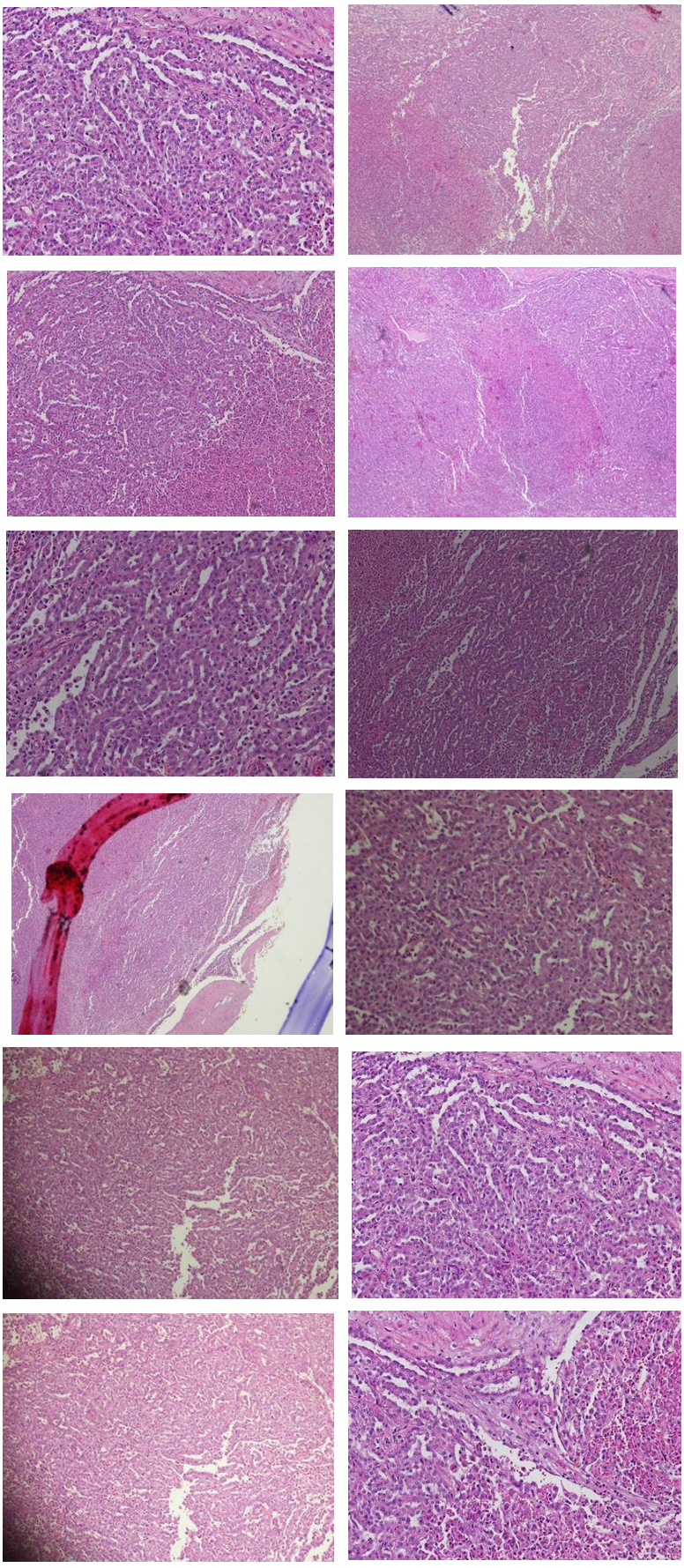

Figure 2. Anatomical pathology results of the renal mass.

Cytological examination: Macroscopic: Three pieces of tissue measuring 16x16x9 cm, 5x5x2.5 cm and 6x4x1 cm, brittle consistency, necrosis, a piece of tissue, kidney, blackish brown color, size 17x14x5 cm, in section structure kidneys unclear, partial mass found necrosis, blackish brown, size 11x10 cm, covered with fat, ureter found 4 cm long, 0.5 cm in diameter. Microscopic: Preparations come from the kidneys, most of which have extensive coagulative necrosis. There was a tumor mass with a tubular papillary structure, solid, consisting of neoplasia cells with an increased N/C ratio, round-oval core, some rough, prominent nuclei, pale eosinophilic cytoplasm, abnormal mitoses found in tubules generally containing amorphous masses, some glomeruli found global sclerosis, some with capillaries containing thrombus. Tumor cells are arranged in one layer. The stroma is fibro-collagen connective tissue, coagulative necropsy areas, and extensive hemorrhages. Among the tumor masses are found macrophage cells with foamy cytoplasm and hemosiderophage. Some of the tumor masses undergo coagulative necrosis. Effect: More in line with papillary renal cell carcinoma type 1. The patient was diagnosed with papillary renal cell carcinoma type 1 sinistra stage 2.

3. Discussion

Kidney cancer accounts for 5% and 3% of all adult malignancies in men and women, respectively, thus representing the 7th most common cancer in men and the 10th most common cancer in women.1 However, the available statistics include not only renal parenchymal tumors but also renal pelvis urothelial cancer; Renal cell carcinoma (RCC) accounts for 80% of all kidney cancers.[1,2,3] Approximately 2%-3% of all RCCs are hereditary, and some syndromes are dominant Autosomal explained, each with a genetic basis and phenotype different types, the most common of which is von Hippel-Lindau disease (VHL). Patients with multiple and bilateral lesions and/or other associated disorders should be tested for these germline mutations as they are important to identify.[2]

As stated above, >50% of RCCs are now detected incidentally, making the classic triad of low back pain, gross hematuria, and palpable abdominal mass less common than in the past. Despite this, RCC remains an 'internal cancer' with paraneoplastic syndromes such as hypercalcemia, unexplained fever, erythrocytes, and Stauffer syndrome (signs of cholestasis not related to tumor infiltration of the liver or intrinsic liver disease, which usually resolve after resection of the renal tumor) still persist. relatively often. In this patient, the only complaint the patient experienced was frequent red urination, causing complaints of weakness due to anemia. The patient only occasionally felt low back pain, and no abdominal mass was found during inspection or physical examination. ballotement not found, only pain when done ketok in the left flank region.[1]

Suspicion of RCC should immediately undergo laboratory examination of serum creatinine, hemoglobin, count leukocytes and thrombocytes, lymph patient to neutrophil ratio, lactate dehydrogenase, C-reactive protein (CRP), and serum corrected calcium [IV, B]. Some of these tests are prognostic for survival and are used for risk assessment in different prognostic scoring systems (see staging and risk assessment section). Most cases of RCC are highly suspected on imaging. Diagnosis is usually suggested by the US and investigated further with a CT scan, which allows assessment of local invasiveness, eventual lymph node involvement, or distant metastases. Magnetic resonance imaging (MRI) can provide additional information in investigating local progression and venous involvement by tumor thrombus.[1,4] On laboratory examination, the patient was only found to have anemia without any increase in kidney function, and no problems were found with electrolytes in this patient. In this patient, after a work-up ultrasound examination and CT urology, it was found that the left kidney mass to the PUJ was suggestive of malignancy, measuring 8.6x4.6x12 cm, which caused hydronephrosis accompanied by multiple paraaortic lymphadenopathies, obtained involvement metastasis in lymph node or metastasis

far away so that when determining tumor staging, a diagnosis is obtained is a patient with a stage II renal mass.[4] The standard treatment for stage I or II tumors and some cases of stage Ill disease is surgical resection, which remains an effective therapy for clinically localized RCC, with options including radical nephrectomy and nephron-sparing surgery, radical or partial nephrectomy. Radical nephrectomy involves removal en bloc from fascia Gerota and its contents, including the kidneys, the ipsilateral adrenal gland in some cases, and the adjacent hilar lymph nodes. Laparoscopy open or robotic surgical techniques may be used to perform radical nephrectomy. The role of regional lymph adenectomy is controversial. Extension to the renal vein or vena cava inferior (stage II disease) does not preclude resection, even if cardiopulmonary bypass is required. resected tumor, discontinuation of these patients has a long survival.[1,6,7] In this patient, radical nephrectomy was performed with the removal of all nephrons and Gerota's fascia. In stage 2, kidney mass has a 5-year survival rate of 73.8% with an SSIGN value of 4. This value is obtained in the TNM staging pathology category with a score of 3 and on histological examination, tumor necrosis was found with a total value of 4, which means intermediate risk. After nephrectomy, the tissue is examined for anatomical pathology. From the anatomical pathology examination, the tissue is Papillary renal cell carcinoma type 1.

Most kidney cancers originate from the epithelium, and this means that renal cell carcinoma (RCC) accounts for the majority of knowledge of kidney cancer. Papillary renal cell carcinoma (pRCC) is the second most common subtype of RCC and accounts for nearly 20% of all RCC; these are further subtyped as type 1 pRCC or type 2 pRCC based on histomorphological features.[2-4] Type 1 pRCC is characterized by low cuboidal epithelial cells with little cytoplasm, pale or basophilic lining, a fibrovascular core, mainly without pseudostratification, and usually with low-level cores. In contrast, pRCC type 2 is characterized by the presence of pseudostratification of neoplastic epithelial cells with more eosinophilic cytoplasm and higher-grade nuclei (Figure 2). These histomorphologic differences are driven by the different molecular abnormalities present in pRCC type 1 versus pRCC type 2. Additionally, it is important to accurately classify pRCC type 1 and type 2 because pRCC type 1 confers a much better prognosis than pRCC type 2.[7,9] Lew et al argue that type 1 pRCC usually has small to medium-sized cells and shape cuboidal with scanty cytoplasm, round nucleus, and inconspicuous nucleolus; this is in contrast to type 2 pRCC, which shows larger cells with enlarged nuclei and prominent nuclei. However, they did not cite any studies that separated pRCC by subtype, and they acknowledged that this feature was based on considering type 1 pRCC as a lower grade and type 2 pRCC as a higher grade. Type 1 pRCC more often has clear nuclear and cytoplasmic grooves. whereas type 2 pRCC had a higher nuclear grade and more granular cytoplasm.[10-14]

4. Conclusion

Papillary cell carcinoma type 1 is a kidney tumor that has a good prognosis, especially if found at an early stage. The classic symptoms of type 1 pRCC are anemia, hematuria, and kidney swelling. Most cases of RCC are highly suspected on imaging. The diagnosis is usually suggested by the US and investigated further with a CT scan, which allows assessment of local invasiveness, eventual lymph node involvement, or distant metastases. With a complete examination, early staging, and continued nephrostomy procedures, the final histopathological diagnosis, classification, grading, and evaluation of prognostic factors are based on the nephrectomy specimen when available.

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