PriMera Scientific Surgical
Research and Practice
Volume 2 Issue 1 July 2023
ISSN: 2836-0028

PriMera Scientific Publications

Case Report: A Case of Renal Cell Carcinoma Presented with Spontaneous Renal Hemorrhage

Type: Case Report
Received: June 13,2023
Published: June 27,2023

Citation:
Lamees Khalil., et al. "Case Report: A Case of Renal Cell Carcinoma Presented with Spontaneous Renal Hemorrhage". PriMera Scientific Surgical Research and Practice 2.1 (2023): 34-37.

Copyright:
© 2023 Lamees Khalil., et al. This is an open-access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Lamees Khalil[1]*, layth Al-Karaja[1], Ansam Jehad Darabea[2], Assala Haitham Farun[1], Bouthayna A.A.klaib[1], Marah Mohammed Almalak[3], Wadee Barbarawi[4] and Riyad Salah Aldeen[4]

[1]*Al-Quds University, Jerusalem, Palestine*

[2]*Palestine Polytechnic University (PPU), Hebron, Palestine*

[3]*Al-AzharUniversity, Gaza, Palestine*

[4]*Almakassed Charitable Islamic Hospital, Jerusalem, Palestine*

***Corresponding Author:** Lamees Khalil, Al-Quds University, Jerusalem, Palestine.

Abstract

Renal cell carcinoma (RCC) is the most common malignant tumor of the kidney, presentation as spontaneous rupture and hemorrhage is rare, it presents as acute abdominal pain and is diagnosed with a computed tomography scan (CT), which is the most common modality used for diagnosis, a variety of causes have been described such as neoplasm, vascular abnormalities, and renal parenchymal diseases, RCC was reported in up to 26% of causative etiology. A rare case with spontaneous rupture of renal cell carcinoma in 40 years old male patient, presented with left flank pain for 3 weeks with massive retroperitoneal hemorrhage, patient was resuscitated and a left nephrectomy was done.

Introduction

As a primary kidney tumor, renal cell carcinoma (RCC) is the most prevalent type. Men experience it more frequently than women do [1]. The average patient's age at diagnosis is between 60 and 65. Only 5% of RCC patients develop the disease before age 40 [2]. It is now known that about 3% of cases of RCC have a genetic basis [3]. It is one of the most common causes of spontaneous renal rupture associated with bleeding [4].

RCC is a difficult diagnosis to make because it frequently exhibits a wide variety of clinically unrecognized symptoms for the majority of its course. Its most frequent presenting symptom is hematuria, which can be either visible or not. Along with flank pain and mass, patients may also experience generalized symptoms like fever, anorexia, lethargy, and weight loss [5]. Even though the classic triad of flank pain, flank mass, and hematuria only occur in 10% of cases, it is a sign of advanced disease. RCC is still undiagnosed in about one-third of patients who were discovered by chance during an unrelated radiologic examination [6]. The prognosis is improved by nephrectomy [7].

Here, we aimed to present a case of a 40-year-old male patient with spontaneous rupture of left-side renal cell carcinoma and perinephric hematoma who presented with left flank pain for three weeks.

Presentation

A 40-year-old man was referred to the urology department regarding his complaint of left flank pain for 3 weeks. It was of sudden onset and intermittent in the course. He is known to have ischemic heart disease (IHD) and chronic headache. The patient's relevant medical history included a total thyroidectomy owing to goiter. Goiter was diagnosed by Fine needle aspiration (FNA) cytology which was performed due to a bilateral thyroid nodule, it showed a follicular lesion with atypical undetermined significance on the right Lobe and goitrous nodule on the left lobe and pathology confirmed the tumor to be multifocal papillary thyroid carcinoma in both lobes. The tumor was limited to the thyroid gland. The patient was treated with Levothyroxine 100 micro2*1. The patient had no history of abdominal trauma, fever, or vomiting. On examination, physical examination was unremarkable except there was a neck scar from a previous total thyroidectomy. Abdominal computed tomography (CT) was performed and it showed a left renal mass and perinephric hematoma suggesting renal cell carcinoma (RCC) or Angiomyolipoma (AML). Fig.1.

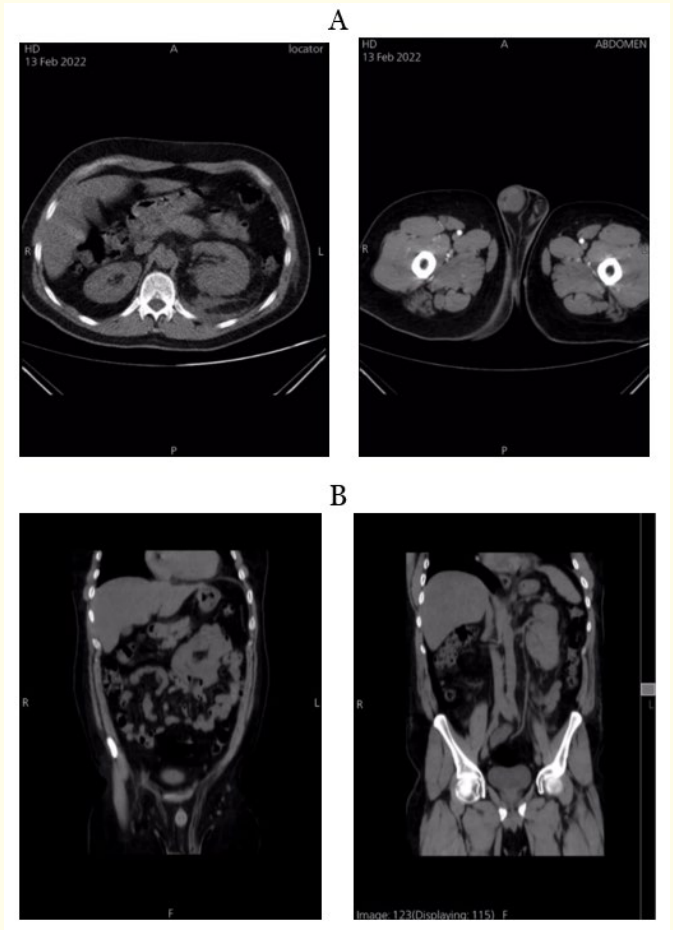

Figure 1

The patient was then referred to surgery and a left radical nephrectomy was performed. The patient tolerated the procedure well and there were no complications.

A is a transverse abdominal computed tomography (CT) and B is a coronal abdominal CT. CT showed that there was a left renal mass and perinephric hematoma.

Discussion

Non traumatic spontaneous rupture of renal cell carcinoma is rare to occur [8], and has been reported in 0.3-0.6% of cases [9], usually represents as a complication of a serious underlying illness, the most common etiology is a benign or malignant neoplasm [10], the most common neoplasm associated with spontaneous bleeding is benign tumor as angiomyolipoma [8] in 33% of cases [9], followed by renal cell carcinoma in 26% of cases [9], vascular disease is the most common offender in 17% of cases with polyarteritis nodosa occurring most frequently [10].

The mechanism of spontaneous rupture of RCC is not well understood [8], and there was no correlation reported between the tumor size and the frequency of rupture [11], some theories have suggested that rupture can be caused by elevation in venous pressure secondary to tumor thrombus, another mechanism is related to the direct tumor invasion of renal capsule or vessel [10], Histopathological, Presence of large necrosis of tumor mass increases it's fragility and makes it vulnerable to rupture causing retroperitoneal hemorrhage [8].

Usually, the Contrast-enhanced Computed tomography scan (CECT) or the Magnetic resonance image (MRI) is the best modality choice for diagnosis [8], in our patient CECT scan showed a left renal mass and perinephric hematoma suggesting renal cell carcinoma (RCC) or Angiomyolipoma (AML).

The management of patients includes initial resuscitation, followed by laparotomy and radical nephrectomy in malignant cases, in benign tumors, embolization, and partial nephrectomy can be tried [8].

There are currently no guidelines regarding the adjuvant treatment of tumor spillage which is possible with ruptured tumor as seen in our case [8].

In our patient, investigations were suggestive of a malignant tumor, so a left nephrectomy was done; under general endotracheal anesthesia, While the patient was positioned supine with minimal elevation of the left flank, scrubbing, and drapping. a 16 Fr urethral catheter was inserted into the bladder and connected to a drainage bag. a time-out was completed, verifying the correct patient, surgical procedure, site, and positioning, prior to beginning the procedure. The operation was performed after a preoperative antibiotic had been given. Exposure of the peritoneal cavity was carried out by making a left subcostal incision, open by layers in the parietal peritoneum on the white line of Toldt and the colon was reflected medially. using sharp and blunt dissection, the retroperitoneal fascia overlying the renal vessels was separated, exposing the underlying renal vein, which was carefully dissected, mobilized, and encircled with a suture. Then with gentle retraction on the renal vein, the main renal artery was identified deep to this and dissected. Vessels were individually ligated using 0 vicryl suture. Backflow bleeding from the renal vein developed yielding 500cc blood. kidney bunt and sharp dissected from the upper pole then posterior and lower (where the ureter was identified and ligated then cut it). The kidney was removed and sent to pathology.

Prior to closure, the vascular stumps, visceral organs, and pleura were inspected and found to be intact. the retractors were removed, the kidney rest lowered, and the table taken out of flexion. at the end of the procedure, all counts were correct. closure by layers. A sterile dressing was applied. The patient tolerated the procedure well and there were no complications.

The patient's postoperative course was uneventful. 3 months post-operative, a computed tomography (CT) scan of the chest, abdomen, and pelvis without contrast was performed and it showed no abnormalities except for a small cortical hypodense lesion of 3 mm too small to characterize. There was no metastasis detected.

Conclusion

The most frequent cause of spontaneous perinephric hemorrhage is kidney neoplasms, and about half of these neoplasms are malignant. It is extremely rare for RCC to present with spontaneous renal hemorrhage, but if this happens, it becomes life-threatening and must be managed as soon as possible.

References

1. Peired AJ., et al. "Sex and Gender Differences in Kidney Cancer: Clinical and Experimental Evidence". Cancers (Basel) 13.18 (2021): 4588.
2. Thompson RH., et al. "Renal cell carcinoma in young and old patients--is there a difference?". J Urol 180.4 (2008): 1262-6.
3. Smith PS., et al. "Characterization of renal cell carcinoma-associated constitutional chromosome abnormalities by genome sequencing". Genes Chromosomes Cancer 59.6 (2020): 333-347.
4. Durak D., et al. "Spontaneous rupture of a renal cell carcinoma associated with fatal bleeding". Maedica (Bucur) 9.3 (2014): 275-7.
5. Ata-ur-Rehman R., et al. "Clinical Presentation of Renal Cell Carcinoma". J Ayub Med Coll Abbottabad 27.2 (2015): 326-8.
6. Rectenwald R. "A case study of back pain and renal cell carcinoma". J Chiropr Med 7.1 (2008): 24-7.
7. Stolpa W, Stręk-Cholewińska A and Mizia-Malarz A. "Clear Cell Renal Cell Carcinoma, Diagnostic and Therapeutic Difficulties, Case Report and Literature Review". Medicina (Kaunas) 58.10 (2022): 1329.
8. Richa Chauhan. "This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited". Hosting by Science Repository (2023).
9. Hiroshige T., et al. "Spontaneous rupture of renal cell carcinoma in a horseshoe kidney: a case report". Hinyokika Kiyo 45.4 (1999): 253-6.
10. Kim WB., et al. "Spontaneously ruptured renal cell carcinoma during hemodialysis in two patients with end-stage renal disease". Korean J Urol 52.12 (2011): 865-7.
11. Zakieldahshoury M, Gad HA and Ahmed S. "Spontaneous rupture of renal cell carcinoma in pregnancy: a case report". Gynecol Obstet Reprod Med (2022): 1-3.