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Case Report

Partial nephrectomy without vessel clamping and hypothermia with conservative management of post-operative bleed in a rural setup: a case report

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ABSTRACT

Hemorrhage is a well-known complication of partial nephrectomy. The bleeding is usually suspected when a patient presents with haematuria or bloody drain discharge following the procedure. This study's primary objective is to discuss case of 63-year-old-man incidentally diagnosed with left lower pole kidney mass. USG abdomen was done and a suspicious mass in lower pole of kidney is noticed. CT-urography was done and assessment was made for further management. Patient details were collected by patient's IPD file. Complete detailed history, patient vitals, hemogram, ABO, with USG abdomen and CT urography was done. Post op CT angiogram was done to evaluate for drain leak. Treatment diagnosis was left lower pole malignant mass. Pre-operative left ureteric catheter placement was done. 11th rib cutting incision was given. The tumour was resected with 1 cm margin. The renal defect was closed with interrupted sutures to the parenchyma. Gerota's fascia was closed. A Robinson drain was placed and the abdominal wall closed. The case was managed without vessel clamping and hypothermia for clear renal cell carcinoma with post op bleed, successfully identified and managed conservatively, giving another potential management option in non-torrential haemorrhage.

Keywords: Conservative management, Drain leak, Lower pole kidney mass, Partial nephrectomy, Post op bleed

INTRODUCTION

Partial nephrectomy is a form of nephron sparing surgery aiming to preserve working nephrons. The procedure is being chosen over total nephrectomy, even in patients with a normally functioning contra lateral kidney. Reperfusion injury is complication of vessel clamping. Hemorrhage is also well-recognized complication of partial nephrectomy.

Partial nephrectomy has recently become the procedure of choice to treat localized renal tumors in patients with tumors less than 4 cm in the long axis. Renal artery pseudo aneurysm after partial nephrectomy is rare but documented event that is clinically difficult to identify and manage.[1] We present a rare case of spontaneous resolution of post partial nephrectomy bleed after a short period of watchful waiting.

CASE REPORT

A 63-year-old man incidentally diagnosed with left lower pole kidney mass of 3.5cm. His vital signs revealed temperature of 36.6ºC, pulse of 92/min and blood pressure of 154/78 mmHg; no remarkable findings for the abdomen on physical examination. All blood tests were normal with an initial hemoglobin level of 13.2 gm%. Ultrasonography

(US) revealed an echoic, oval cystic mass located in the left lower pole of kidney. Contrast computed tomography (CT) of the abdomen revealed an enhancing renal mass of the left kidney about 3.5-2.5 cm in size, consistent with renal cell carcinoma (Figure 1).

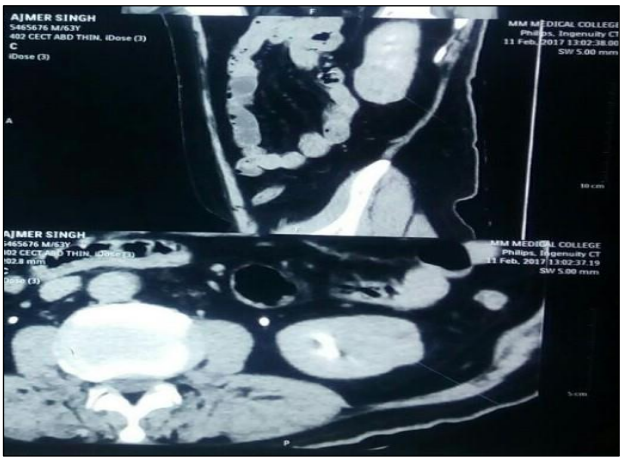

Figure 1: Contrast computed tomography (CT) of the abdomen. Revealed an enhancing renal mass of the left kidney about 3.5-2.5 cm in size, consistent with renal cell carcinoma.

Patient underwent a pre-operative left ureteric catheter placement. Good access was achieved with a 11th rib cutting incision. The tumour was easily visualized. The hilum was dissected and renal vessels were identified. The tumour was resected with 1 cm margin and bleeders controlled with 3-0 vicryl in figure of eight. The renal defect was closed with size 1 polyglactin interrupted sutures to the parenchyma and abgel was placed. Gerota's fascia was closed around the kidney. A Robinson drain was placed and the abdominal wall closed. Estimated blood loss in theatre was 500 ml. Patient past history includes Hypertension. He made a good postoperative recovery. However, till 6th day drain was bloody around 200 ml per day with no haematuria, HB dropped from 13.2 to 11.4 gm%. CT renal angiography was done which shows small (1 mm) vessel from where bleeding was happening (Figure 2).

Patient was kept under strict watchful waiting which shows spontaneous resolution. Patient was kept on anticoagulant. Drain output showed gradual drop and complete cessation by 13th post-operative day. No further interventions were undertaken. Patient was discharged with drain and advised follow up. Histology revealed a T3aNx Fuhrman grade 2 clear renal cell carcinoma with clear renal parenchymal margins (Figure 4).

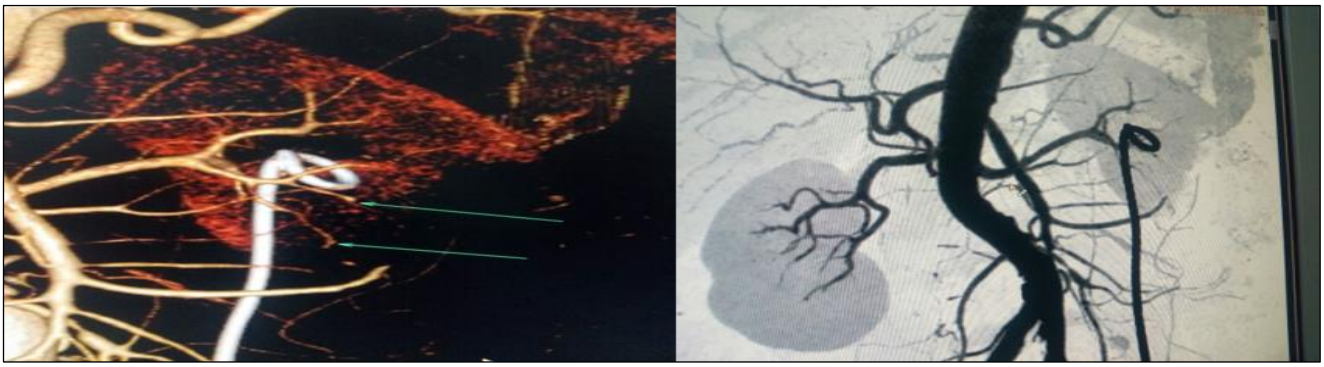

Figure 2: CT renal angiography, showing small (1mm) vessel from where bleeding was happening.

Figure 4: Histology, revealed a T3aNx Fuhrman grade 2 clear renal cell carcinoma with clear renal parenchymal margins.

DISCUSSION

Partial nephrectomy is more complex than conventional radical nephrectomy and more frequently results in complications. The possible complications of partial nephrectomy chiefly affect the vascular and collection systems.[1,2] Renal artery pseudoaneurysms are relatively less common lesions. Delayed haemorrhage after partial nephrectomy is an uncommon complication with a reported frequency of 2%.[3] However, as partial nephrectomy becomes a more common procedure, evidence and experience of managing procedure specific complications needs to develop. An artery that is partially transected during resection could subsequently bleed into a contained space, particularly near the wedge resection apex. Gross haematuria and flank pain at the site of prior

surgery are very suggestive of such a process. We suggest pseudoaneurysm should consider differential diagnosis of loculated fluids at the nephrectomy site. This complication usually presents in the first 2 or 3 weeks after surgery. It is therefore important to keep pseudoaneurysm in mind as a potential delayed complication in hypovolemic patients following partial nephrectomy. Angiography has been shown to be the reference standard for the diagnosis of renal artery pseudoaneurysm.[4]

However, if the patient is stable, non-invasive tests such as contrast medium-enhanced CT, or color Doppler sonography should be performed. Endovascular transcatheter embolization of highly selective vessels prevents risks of surgery, and an operation can often be avoided entirely.

In a stable patient spontaneous resolution of post partial nephrectomy bleed after a short period of watchful waiting can be a new management.

CONCLUSION

The uniqueness of this case is that partial nephrectomy can be done without vessel clamping and inducing of hypothermia, hence for preventing reperfusion injury.[5] Secondly persistent post-operative bleed can be managed conservatively in selective cases.

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