

**"ENDOVASCULAR MANAGEMENT OF A GIANT RENAL PSEUDOANEURYSM FOLLOWING URETEROSCOPY : A CASE REPORT"**

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(ABSTRACT) Renal pseudoaneurysm is an uncommon but serious complication after ureteroscopy. We describe a case of 21-year young male, who underwent Double J stent, presented to us with hematuria after 10 days. After clinical examination and radiological investigations, he was diagnosed to have right main renal artery pseudo aneurysm which was successfully treated with Angio embolization.

KEYWORDS :**INTRODUCTION:**

Renal artery pseudoaneurysms most commonly occur secondary to trauma and surgical interventions (renal biopsy, percutaneous lithotomy, partial nephrectomy), but can also occur as a result of malignancy and infections. Uteroscopy procedures are increasingly performed nowadays in urological practice but not without complications. Renal artery pseudoaneurysms are rarely reported following ureteroscopy. The exact mechanism of pseudoaneurysm formation and its incidence is not known. It can be treated with endovascular procedure or open surgery. To our knowledge this is the first case in the available literature, of extra parenchymal pseudoaneurysm formation following ureteroscopy. We are sharing this case to make aware of endourologists about this entity while performing the procedure.

CASE PRESENTATION:

21-year male underwent ureteroscopy and right DJS (double J stenting) for right pyelonephritis with grade 3 hydronephrosis. There was no calculus in the preoperative imaging. He came to urological emergency with gross hematuria for duration of 10 days. On examination, tachycardia was present, and abdomen was soft and non-tender. On admission his hemoglobin was low (5.8g/dl) which was corrected with blood transfusion. On imaging he was found to have large pseudoaneurysm located just proximal to right main renal artery bifurcation. Renal cortex was thinned out and there was no perinephric collection present. Renal angiogram shows large pseudo aneurysm arising from main renal artery just distal to capsular branches without any contrast leak. Subsequently, he successfully underwent coil embolization of right main renal artery. His hematuria resolved after coil embolization. Computed tomography (CT) angiogram repeated after one week shows no residual pseudoaneurysm. His DJS (Double J stent) was removed and discharged on stable status with resolution of symptoms.

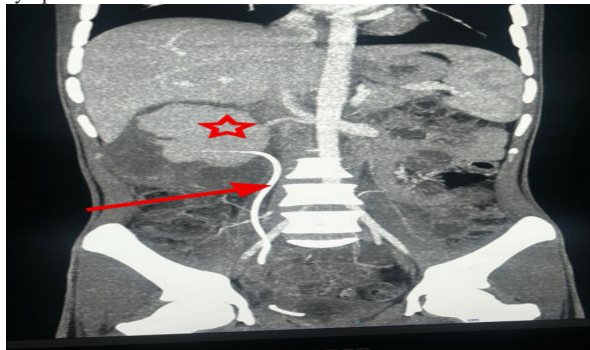


Figure 1: coronal image showing large pseudoaneurysm(asterisk) of right main renal artery with DJS (Double J stent) in situ(arrow).

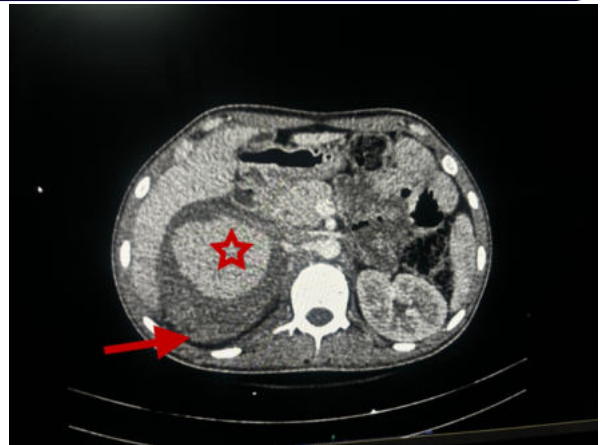


Figure 2: Axial image showing pseudoaneurysm(asterisk) with dilated pcs and thinned out parenchyma(arrow).

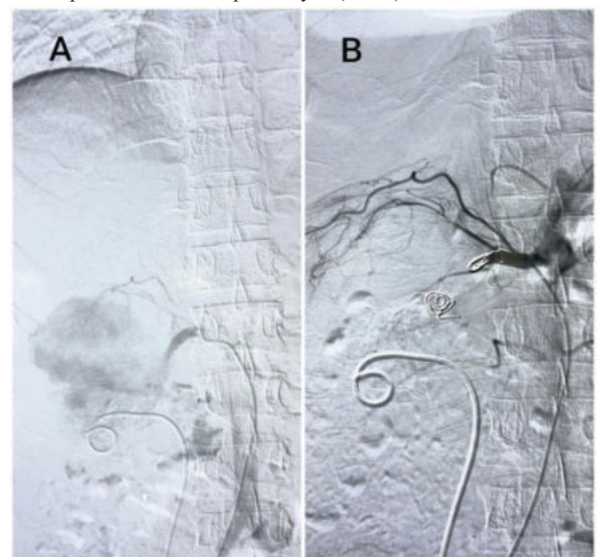


Figure 3: (A) Right renal angiogram showing large pseudo aneurysm arising from main renal artery distal to capsular branches. (B) Post coil (6*14mm) embolization complete deafferentation of pseudo aneurysm with prominent capsular branches supplying the residual renal parenchyma.

DISCUSSION:

Renal vascular complications are well known after percutaneous renal surgeries, but its exact incidence with endourological procedures is not known. CT angiography is the diagnostic modality of choice for pseudoaneurysms. Aston et al, reported pseudoaneurysm following electrohydraulic lithotripsy¹ and Scott et al, reported intrarenal AVF following holmium laser lithotripsy.² Cases of renal artery pseudoaneurysms has been reported following ureteroscopy in patients with anticoagulants.^{3,4} Prolonged duration of surgery (more than 90 mins) also associated with increased complications.⁵ In our case, patient was not taking any anticoagulants and he underwent right DJS for pyelonephritis.

Treatment strategies of renal pseudoaneurysms depends on the symptoms, location and size. Although spontaneous resolution of pseudoaneurysm is reported, these cases are exception as pseudoaneurysms are potentially lethal. Pseudoaneurysms of more than 2cm⁶ and symptomatic patients need emergency intervention. In our case patient presented with shock and the size of the pseudoaneurysm was very large (8.7cm 6.1cm* 5.8cm), so we proceeded with intervention. Angioembolization is the preferred treatment of choice for renal artery pseudoaneurysm. Success rate of angioembolization is between 71%-100%.⁷ Open surgery is indicated when qualified interventional radiologist is not available or if embolization is failed. In such patients, nephrectomy is the last report. To our knowledge this is the first case report with extra parenchymal pseudoaneurysm following endourological procedure managed successfully with angioembolization.

CONCLUSION:

Endo urological procedures can be simple but, also lead to devastating complications. Apart from proper preoperative patient selection, endourologists should be familiar with the instruments and surgical techniques to avoid complications.

CONSENT:

Written informed consent was obtained from the patient for the publication of the case report and accompanying images.

Conflict Of Interests:

None

Abbreviations:

DJS – Double J stent

CT- computed tomography

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