

RENAL ARTERY PSEUDOANEURYSM AND ROLE OF ENDOVASCULAR INTERVENTION**Dr. Saroj Thakur* and Dr. Malvika Shitak**

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KEYWORDS: Nephrolithotomy; Renal artery pseudoaneurysm (RAP); Endovascular embolization.**INTRODUCTION**

Renal artery pseudoaneurysm (RAP) is a rare renal vascular complication that may occur following nephrolithotomy. It can remain asymptomatic or can cause gross hematuria and life threatening hemorrhage. Superselective embolization of renal artery is a minimally invasive, safe and efficient method for such complications and preservation of renal function.

CASE REPORT

We report a case of 47 year old male patient presented with history of pain right flank region.

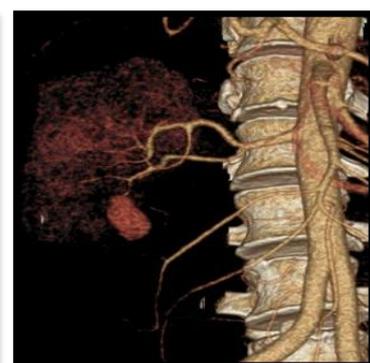
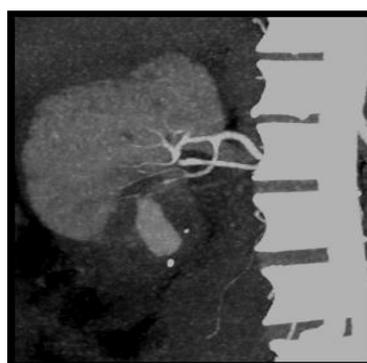
On clinical suspicion of renal calculus, non-contrast computed tomography (NCCT) was performed.



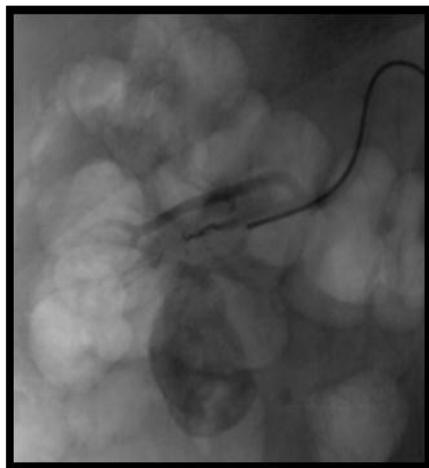
NCCT abdomen showed presence of a right renal pelvis calculus causing hydro-nephrosis.

Patient underwent nephrolithotomy and surgical drain was placed in situ. On post-operative day 1, patient

complained of hematuria and ultrasound abdomen showed right perinephric collection with blood clots in urinary bladder. For further investigation, Contrast enhanced computed tomography (CECT) abdomen was done.



CECT abdomen showed presence of a contrast filled oval lesion near lower pole of right kidney suggestive of pseudo-aneurysm of renal artery and presence of right perinephric collection. The presence of pseudoaneurysm was conformed on maximum intensity projection and volume rendered images.



Under digital subtraction angiography, superselective renal catheterization was done through right transfemoral access. Endovascular embolization with complete obliteration of pseudo-aneurysm was done and hematuria was settled.



DISCUSSION

Renal artery pseudoaneurysm (RAP) is an unusual complication that may occur after nephrolithotomy. Hematuria is the most common symptom, however it may cause life threatening hemorrhage. It results from trauma to peripheral segmental arteries which are not bordered with renal parenchyma.

CT angiography is the investigation of choice for diagnosis of post-operative complication as renal vascular injuries. It has advantage to demonstrate the entire urinary tract and renal vasculature as well. RAP is best visualized on arterial phase as focal high density lesion with density similar to adjacent renal vessels. However digital subtraction angiography remains gold standard when conservative methods fail to manage hemorrhagic complications associated with procedures like nephrolithotomy.

Angiographic embolization is the treatment of choice for RAP as it is minimally invasive and there is no loss of renal parenchyma. Through transfemoral approach, superselective catheterization can be done with microcatheters. Different embolic agents as coils, particulate agents and liquid agents can be used, depending upon the vascular anatomy and underlying process.

CONCLUSION

Nephrolithotomy is a safe procedure for removal of renal calculi. RAP is a rare vascular complication of this procedure which may lead to life threatening hemorrhage. Superselective endovascular embolization allows early diagnosis and treatment for such RAP associated with significant blood loss and should be considered first-line management tool.

REFERENCES

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