Pseudoaneurysm at Anastomotic Site in a Case of Renal Transplant: A Rare Postsurgical Complication

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Abstract

A rare case of a large pseudoaneurysm at the anastomotic site of internal iliac artery with the graft renal artery in a case of renal transplant is presented with a vision of documenting this condition and making clinicians familiar with this rare postsurgical complication in patients of renal transplant.

Keywords: Computed tomography angiography, pseudoaneurysm, renal transplant

Introduction

Renal transplant rejection is a common phenomenon in cases of allografts. The pseudoaneurysm formation at the site of anastomosis of donor renal artery and internal iliac artery is a rare postsurgical complication.[1]

Case Report

A 24-year-old male patient who had allograft (from 1st cousin) renal transplant for end-stage renal disease secondary to familial focal segmental glomerulosclerosis 4 months back wherein the graft renal artery was anastomosed with the right internal iliac artery, presented to emergency surgical observation with complaints of the right iliac fossa pain radiating to the right thigh, nausea, and loss of appetite. The clinical examination revealed a bruit over the right iliac fossa. The biochemical investigations revealed deranged renal function tests (serum creatinine = 3.8 mg % and serum urea = 105 mg %). Gray-scale ultrasonography revealed normal sized graft kidney in the right iliac fossa with markedly increased cortical echogenicity with mildly altered corticomedullary differentiation, mildly dilated pyelocalyceal system, and a large hypoechoic lesion measuring 6.62 cm × 6.67 cm near the hilum of graft kidney [Figure 1a and b]. The color-coded Doppler sonography revealed peripheral vascularity of the hypoechoic lesion with normal Doppler parameters of the segmental renal arteries [Figure 1c and 1d]. The preliminary diagnosis of a thrombosed pseudoaneurysm of the transplanted renal artery was made, and the patient advised for computed

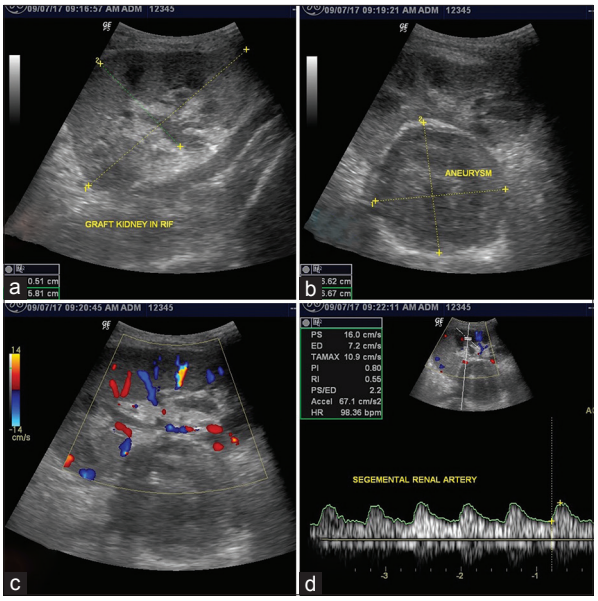

Figure 1: Gray-scale (a and b) ultrasonography images of the graft kidney showing the increased cortical echogenicity and mildly altered corticomedullary differentiation along with the large hypoechoic round structure at the hilum with central hyperechogenicity (thrombosis). Color Doppler sonography (c and d) images of the same patient showing the normal segmental arterial waveform and thrombosed pseudoaneurysm

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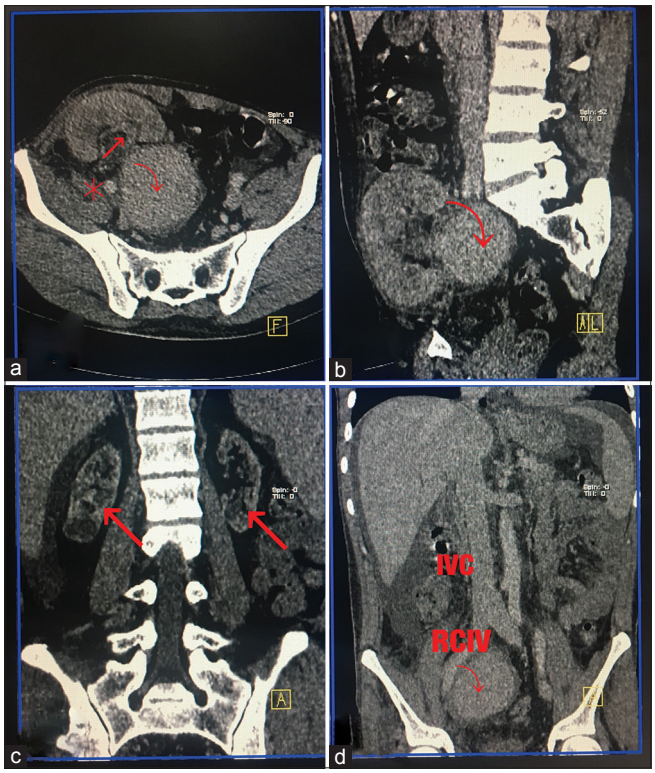

Figure 2: Computed tomography angiographic images showing large mildly enhancing thrombosed pseudoaneurysm (Curved arrow- [a and b]) at the junction with graft renal artery (oblique leftward arrow-[a]), native contracted kidneys (c), and displacement of the right common iliac vein (d)

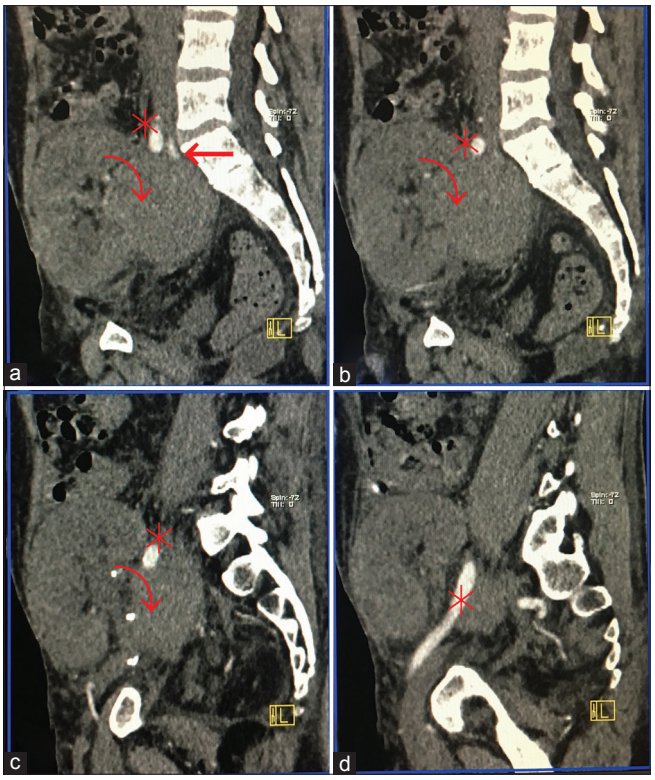

Figure 3: Sagittal computed tomography angiographic images showing the thrombosed pseudoaneurysm (curved arrow-[a and b]) and its continuation with the right internal iliac artery (straight arrow-[a] with normal caliber and opacification of the right external iliac artery {asterisk-[a-d])

tomographic angiography for definitive confirmation. After proper rehydration and one cycle of hemodialysis, the creatinine levels improved to 1.6 mg%. Contrast-enhanced renal angiography was performed using 64-slice Somatom sensation computed tomography (CT) machine (Siemens Healthcare, Germany) after injecting 90 ml of iodixanol (Visipaque 370, relatively safe in the presence of deranged renal function). The CT angiographic study revealed a large thrombosed pseudoaneurysm at the anastomotic site of internal iliac and graft renal artery displacing the right external iliac artery and right common iliac vein. The opacification of the right external iliac artery was normal. There was mild uptake of contrast by the graft kidney; however, no excretion of the contrast was seen in the delayed scans relating to decreased renal function. Furthermore, the atrophic and dysfunctional native kidneys were noted [Figures 2 and 3]. The graft kidney biopsy was also taken which revealed the features of humoral rejection. The condition did not improve despite the plasmapheresis. The attendants were explained the prognosis and advised for a nephrectomy with aneurysm resection/repair followed by a re-transplant.

Discussion

Pseudoaneurysm at the site of arterial anastomosis is a very rare complication seen in <1% of the recipients.[1] The various caused attributed to this condition include mycotic infections, suture rupture, anastomotic leakage, and vessel wall ischemia.[2] The diagnosis is made by color Doppler sonography and CT angiography. The management includes aneurysm repair with transplantectomy in patients showing features of rejection on biopsies and repair by percutaneous administration of thrombotic agents, conventional open repair, or endovascular repair in cases where the renal function is preserved and there are no signs of rejection.[3] Endovascular treatment with the use of covered stents is another valuable therapeutic option but with a substantial risk of allograft sacrifice.

Conclusion

Although rare, the pseudoaneurysm formation at the vascular anastomotic must be considered in differential diagnosis of posttransplant patients presenting with the right lower quadrant pain and audible bruit so that necessary investigations and treatment are planned at the earliest.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients

understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

References

1. Koo CK, Rodger S, Baxter GM. Extra-renal pseudoaneurysm: An uncommon complication following renal transplantation. Clin Radiol 1999;54:755-8.
2. Renigers SA, Spigos DG. Pseudoaneurysm of the arterial anastomosis in a renal transplant. AJR Am J Roentgenol 1978;131:525-6.
3. Poels JA, Riley PL. Extrarenal transplant artery pseudoaneurysm: A combined therapeutic approach. Cardiovasc Intervent Radiol 2008;31:404-6.