



NON-AUTOGENOUS GRAFT RECONSTRUCTION IN AN EXTERNAL ILIAC ARTERY DISSECTION IN A POST-TRANSPLANT RECIPIENT

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INTRODUCTION

- External iliac artery dissection is a rare and catastrophic complication that affects the renal allograft and the lower extremity.
- Management in renal transplantation is poorly established and challenging because both the allograft and the limb are at risk.
- Predisposing factors include atherosclerosis, hypertension and trauma from vascular clamping and sub-optimal suturing technique.
- Timely recognition, repair of dissection and graft reperfusion are necessary for successful management.

DISCLOSURE

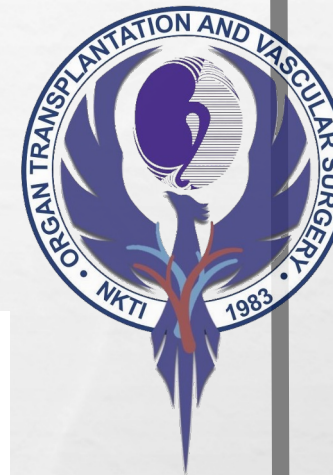
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CASE:

- Patient C.A., A 53, year old male, known diabetic and hypertensive, previous smoker, on hemodialysis.
- The allograft has two renal arteries, single vein, vascular anastomosis was thru the external iliac artery and vein. Unclamping of the vessels showed a well perfused renal allograft with brisk urine formation.
- In the PACU, patient developed oliguria, non- responsive to hydration and diuretics.
- At the 3rd post-operative hour, the team re-operated and explored the patient.
- Intraoperatively, the allograft was soft and pale with ischemic posterior aspect. Clamp sites are violaceous at proximal and distal external iliac artery.
- Allograft was then explanted and re-perfused.
- Inspection of the external iliac artery revealed separation of the intima at the clamp sites extending to the arteriotomies (Figure 1).

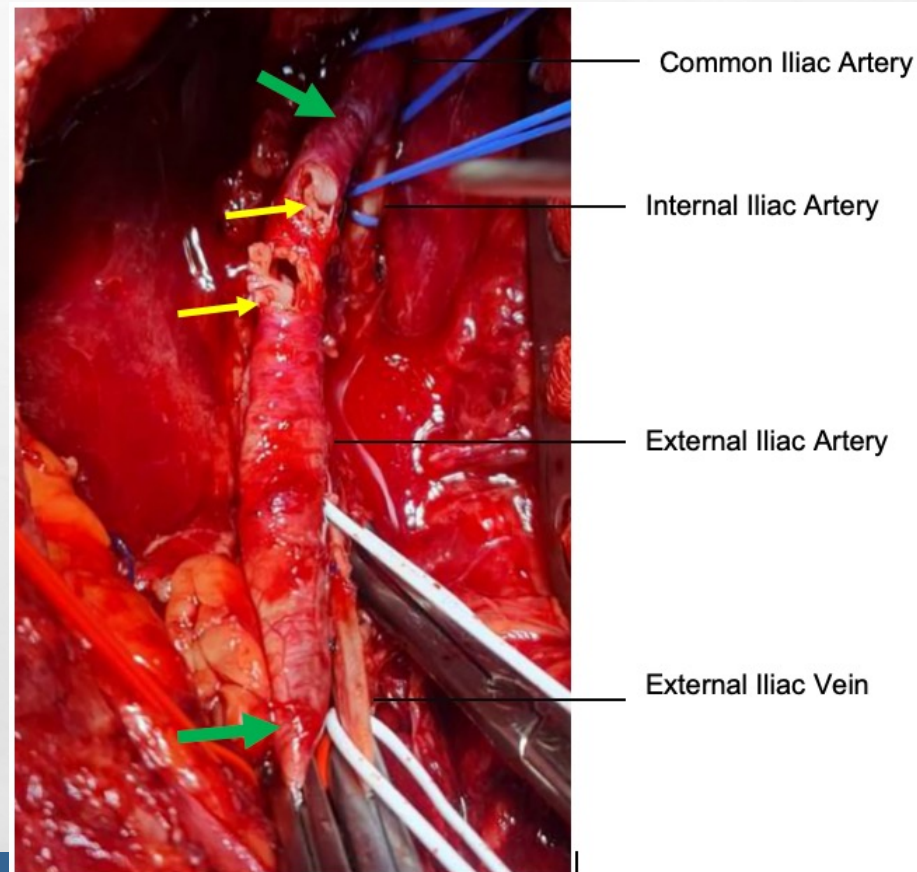


Figure 1: Allograft bed post allograft retrieval showing the arteriotomies with jagged intima (yellow arrows) and the previous clamping sites (green arrows).



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CASE:

- External iliac artery dissection was deemed irreparable hence, was resected, tucking sutures were placed.
- Reconstruction of EIA using 6mm ptfе graft thru an end-to-end anastomosis at the bifurcation of the proximal EIA to the distal EIA was done (Figure 2).
- Arteriotomies were done using thru the PTFE graft. Subsequent vascular anastomosis were done.
- Postoperatively, noted graft function demonstrated by increasing urine output and declining creatinine trend. Examination of the right lower extremity was unremarkable.
- Patient was discharged with a creatinine level of 2.39mg/dl and was maintained on anticoagulant.
- Three months after transplant, the creatinine level is at 1.1 mg/dl.

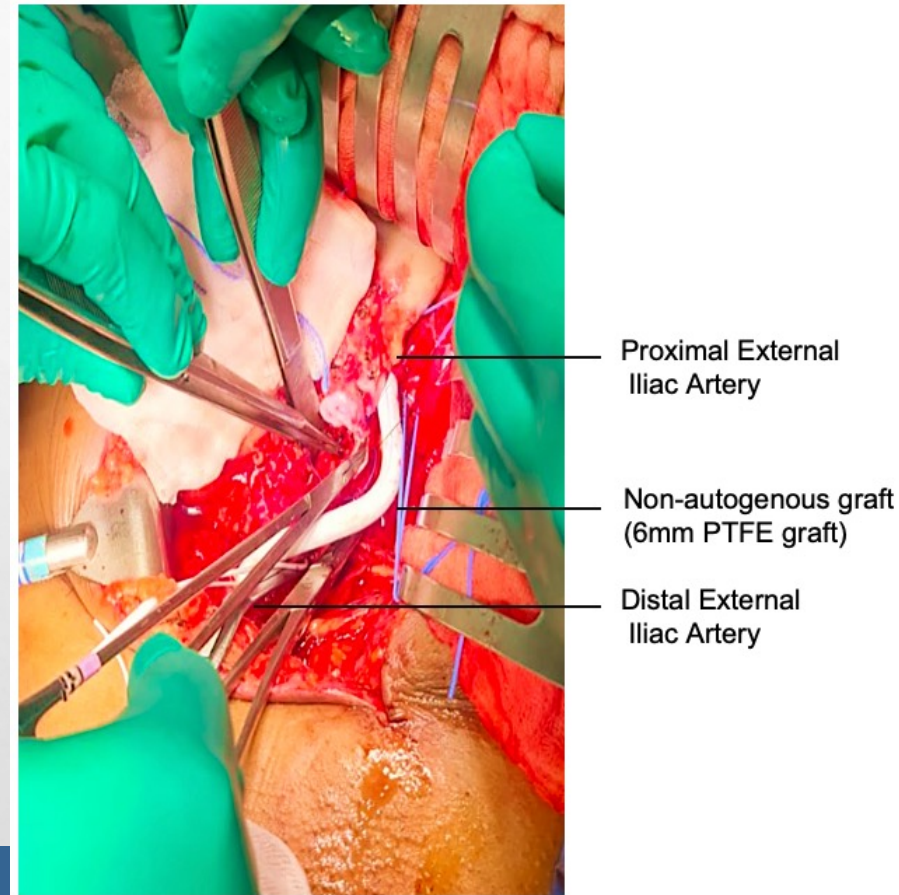


Figure 2: Reconstructed external iliac artery using non-autogenous graft



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CONCLUSION

- External iliac artery dissection in renal transplant recipients should be considered a differential diagnosis in cases of allograft dysfunction during the immediate post operative period.
- Using soft Fogarty clamps, clamping away from atherosclerotic calcifications, and meticulous suturing anastomoses to include the intima are some ways to prevent iliac artery dissection during renal transplantation. (2)
- In cases of irreparable intimal injury of external iliac artery, the use of non-autogenous graft using polytetrafluoroethylene (PTFE) interposition graft is a crucial salvage technique.(4,5)

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