

# Non-Domino Therapeutic Donation of Living Donor Transplanted Kidney after Recurrent Focal Segmental Glomerulosclerosis

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## Introduction

- Transplant programs must ensure OPTN policy requirements are met for the uncommon case of non-domino therapeutic donation (OPTN 2023).
- A non-domino therapeutic donor is defined by the OPTN as an individual who has an organ removed as a component of medical treatment and whose organ is transplanted into another person. The donor does not receive a replacement organ.

## Case Profile Background

- 26 year old female with FSGS diagnosed at age two progressed to ESRD at age 23.
- Received an unrelated living donor kidney transplant from a 43 year old female.
- After initial excellent urine output, the patient developed nephrotic-range proteinuria and then became anuric on POD 2.
- Biopsy on POD 2 demonstrated 100% podocyte foot process effacement, consistent with recurrent FSGS
- Rituximab and plasmapheresis treatment were initiated, but rituximab required discontinuation after the patient developed throat swelling.
- After 13 plasmapheresis treatments over four weeks, the patient remained anuric, refused further treatment, and requested transplanted kidney removal.
- Recipient inquired if the kidney could be used for re-transplant
- Biopsy on POD 31 demonstrated continued 100% podocyte foot process effacement (image 1) with some tubular injury due to proteinuria, normal glomeruli but no permanent scarring (image 2).

## Decision Making Process

- Lit research for previous case reports
- Review of OPTN policy 14.9
  - All elements of informed consent
  - All evaluation requirements met
- Notification of hospital administration
- Criteria set for potential recipient
  - Match run list for allocation
  - Virtual XCM
- Informed consent, PHS Risk screening and blood specimens
  - Original living donor
  - Non-therapeutic donor
- Informed consent and blood specimen
  - Identified primary recipient

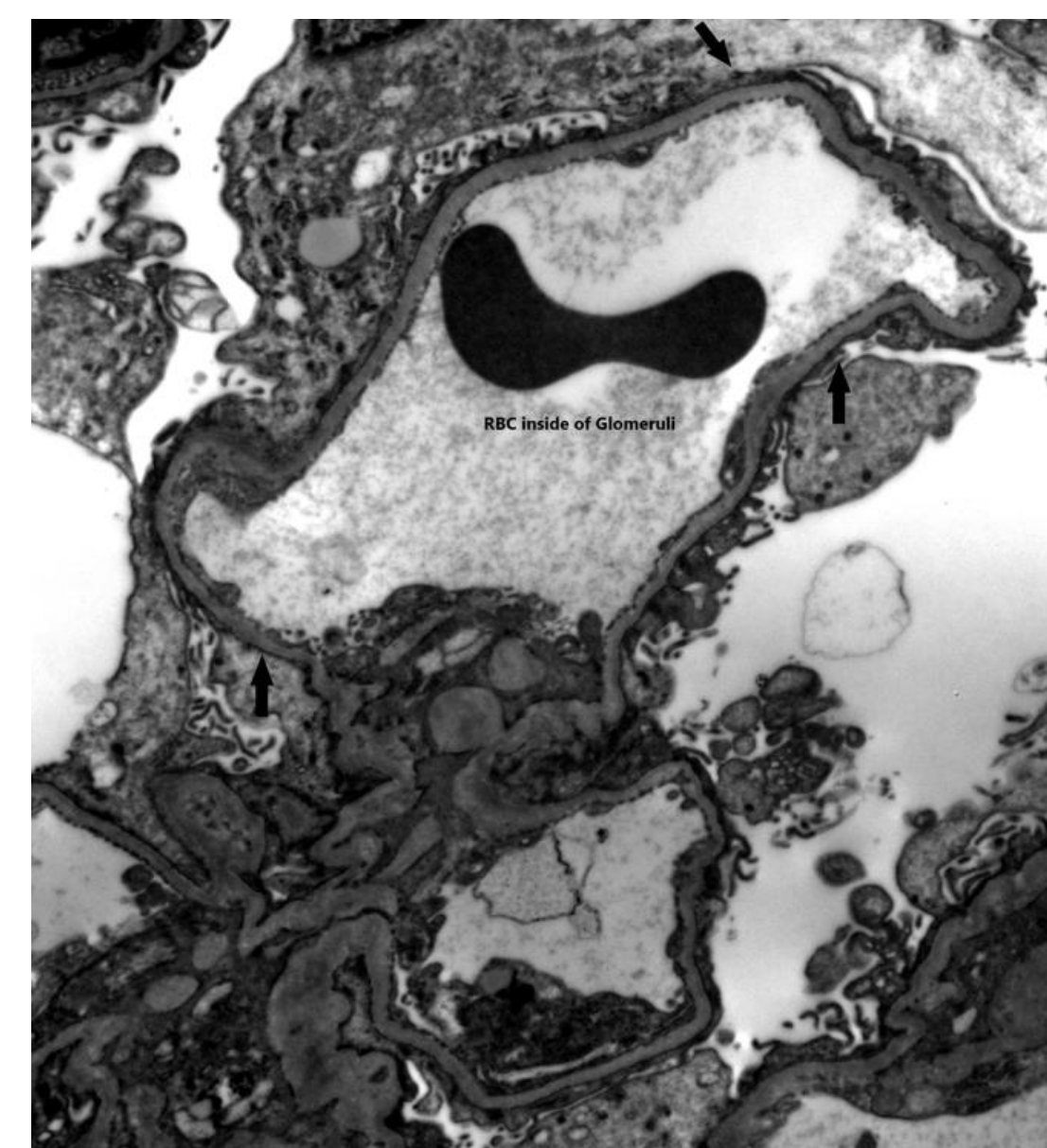


Image 1  
Photo Courtesy of Arkana Laboratories

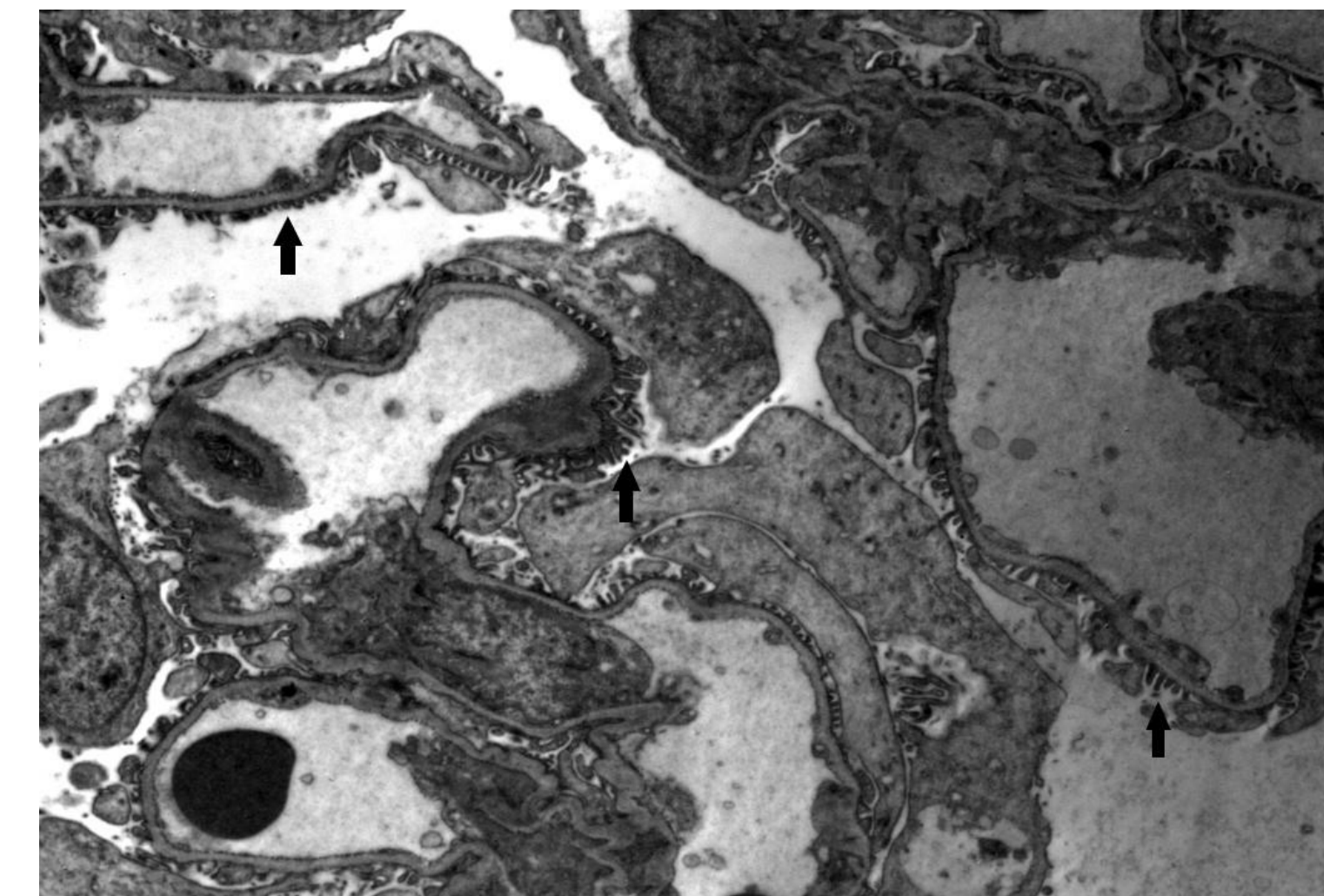


Image 3  
Photo Courtesy of Arkana Laboratories

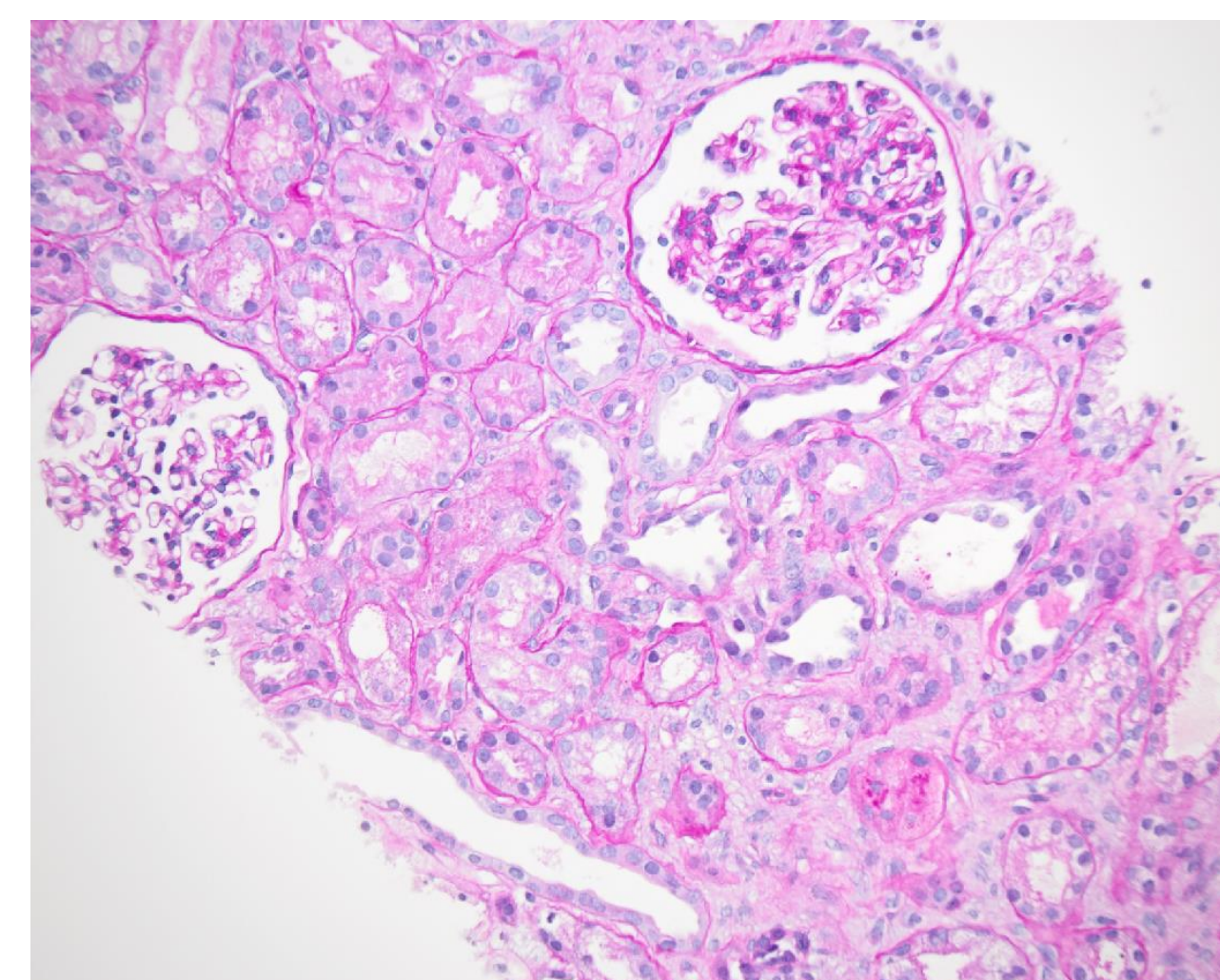


Image 2:  
Photo Courtesy of Arkana Laboratories

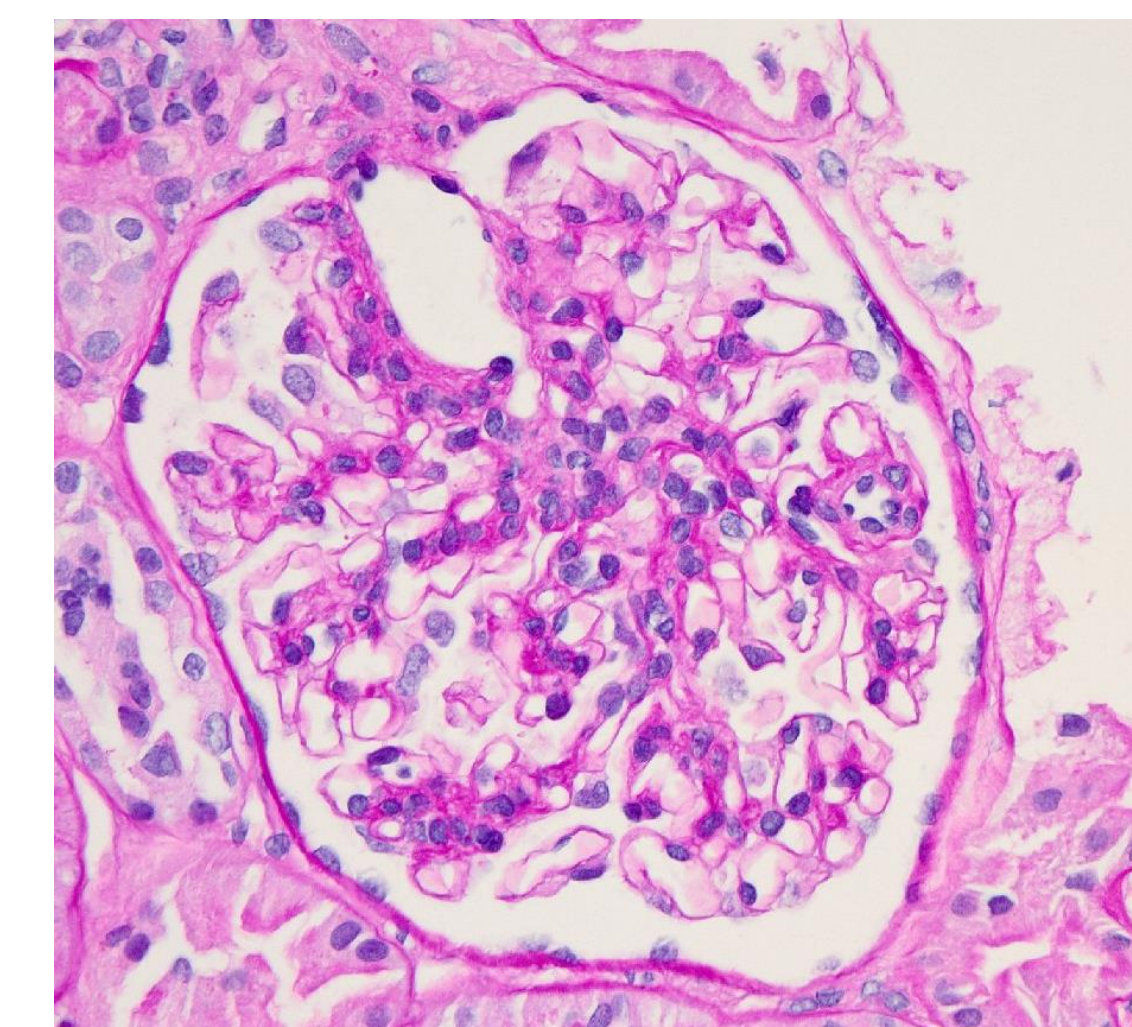


Image 4  
Photo Courtesy of Arkana Laboratories

## Results

- On POD 37 transplant nephrectomy and non-domino transplant kidney donation to
  - 76 year old male with ESRD due to type 2 diabetes mellitus on hemodialysis
  - Allograft required back table arterial reconstruction due to adherent tissue.
  - Recipient required two dialysis treatments as inpatient due to DGF and hyperkalemia.
  - Recipient was discharged on POD 5 and required no dialysis as outpatient.
  - Three months postoperative biopsy for creatinine of 2.47
    - Negative for acute rejection and podocytopathy resolved (image 3)
    - Protracted tubular injury but glomeruli intact (image 4)
  - Recipient underwent placement of stent across the origin of the stenotic renal artery.
  - Eight months post transplant, recipient transitioned from tacrolimus to belatacept with creatinine of 2.
  - One year post transplant, recipient creatinine 1.85

## References

- OPTN Policies.* (2023, Feb 1). Retrieved from [optn.transplant.hrsa.gov](https://optn.transplant.hrsa.gov).
- Kienzl-Wagner, K. Rosales A, Scheidl S. et al. Successful management of recurrent focal segmental glomerulosclerosis. *AM J Transplant.* 2018;18: 2818-2822.
- Gallon L, L. J. (2012 April 26). Resolution of Recurrent Focal Segmental Glomerulosclerosis after Retransplantation. *N Engl J Med,* 1648-1649.

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