Donor Characteristics, Recipient Outcomes, and Histologic Findings of Kidney Allografts with Diffuse Donor-Derived Glomerular Fibrin Thrombi
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BACKGROUND
- Given the shortage of kidneys available for transplantation, major effort is being made to lower discard rates of deceased donor kidneys.
- Limited data is available regarding whether it is safe to use donor kidneys with diffuse glomerular fibrin thrombi (GFT).

AIM
- To examine the clinicopathologic characteristics of allografts with diffuse donor-derived GFT.

METHODS
- All time-zero kidney transplant biopsies between 01/2011 to 07/2017 with diffuse (>50%) GFT were included.
- For each patient, all subsequent kidney biopsies were reviewed to assess histologic changes.
- Associated clinical data were extracted from electronic medical records, including donor information.

RESULTS
- Donor characteristics:
  - All donors died from severe head trauma.
  - Average KDPI was 38%.
  - Average cold ischemia time was 35 hours.
- Time-zero biopsies:
  - Average of 82% glomeruli involved by GFT.
  - All showed moderate to severe ATI.
  - No significant interstitial fibrosis or tubular atrophy was seen in any of the cases.

- Recipient outcome:
  - 15 of 18 patients had subsequent biopsy within first 6-months post-transplant, all revealing GFT resolution.
  - Delayed graft function was experienced in 63% of cases.
  - All showed good graft function except one which failed within the first year.
  - Notably, its sister donor kidney experienced no complications.

- Conclusions:
  - Severe head trauma is a predisposing factor for donor-derived diffuse GFT.
  - Deceased donor kidneys with diffuse GFT are typically of good quality (low KDPI, glomerulosclerosis, and chronicity).
  - Histologically, GFT demonstrated rapid resolution following transplantation.
  - Deceased donor kidneys with diffuse GFT appear to be safe to use given that nearly 95% of recipients in this cohort experienced good clinical outcomes.