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Donor-derived Glomerular Fibrin Thrombi in 1hr graft biopsy of deceased donor kidney transplant: A case report

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Case Study : At our center, a protocol graft biopsy is performed one hour after renal artery declamping during deceased donor kidney transplantation (DDKT) to assess the transplanted kidney. A patient who had been on hemodialysis for 7 years due to end-stage renal disease caused by diabetes underwent DDKT with a 6/6 HLA match. The donor had suffered a traumatic subdural hemorrhage. During the surgery, a 1hr graft biopsy was performed and the patient recovered well post-surgery. However, biopsy results revealed thrombi within the glomerular capillaries, diagnosed as Acute Thrombotic Microangiopathy (TMA) (Figure 1). Despite this, the patient was stable, with normal kidney ultrasound and scan, stable urine output and serum creatinine levels of 1.2-1.3 mg/dL. Given the low likelihood of rejection, infection, or CNI toxicity, the patient was monitored without specific treatment and discharged without significant findings. A follow-up biopsy six months later showed complete resolution of the thrombi. Further investigation revealed that the initial diagnosis of TMA was incorrect, and the patient actually had Donor-derived Glomerular Fibrin Thrombi (GFT). GFT is characterized by widespread fibrin-rich microthrombi in the glomerular capillary loops, which is part of the TMA morphological spectrum, and is typically associated with disseminated intravascular coagulation (DIC) in the donor. One study found that GFT is commonly associated with severe head trauma and blunt force fatalities in the donor, and typically resolves within a few months. Although kidneys from donors with GFT may experience delayed graft function, they generally show similar renal function outcomes to controls and can be safely transplanted. Donor-derived GFT is rarely reported in Korea. Since kidneys with GFT can still be safely transplanted, this case is presented to highlight its significance in improving kidney transplant survival rates.

figure 1.JPG

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Beyond Challenges, Towards Healthier Kidney

