Successful plasmapheresis-free treatment with eculizumab of acute antibody-mediated rejection (AMR) in a highly sensitized kidney transplant recipient

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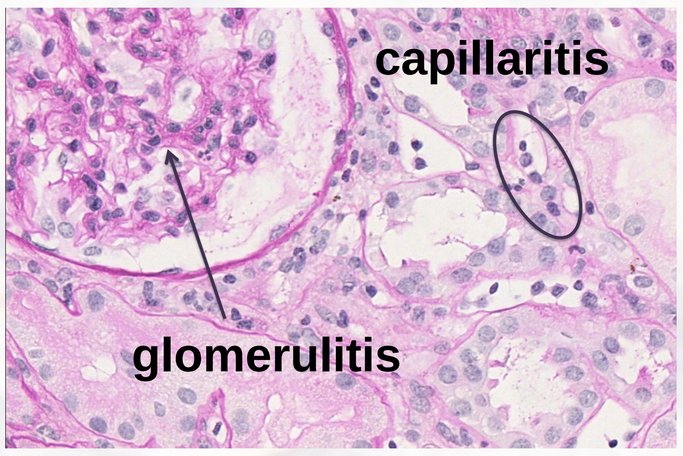
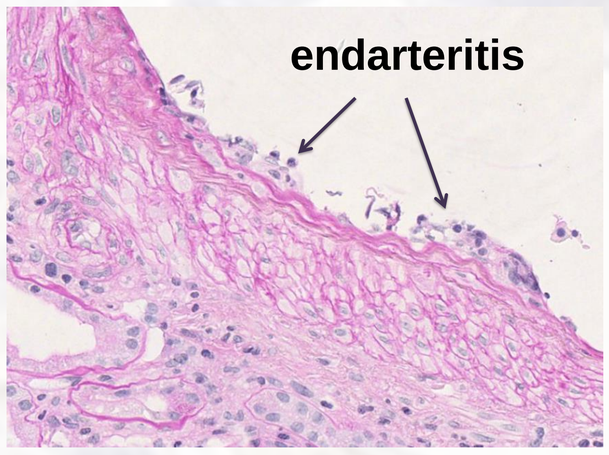
Background:

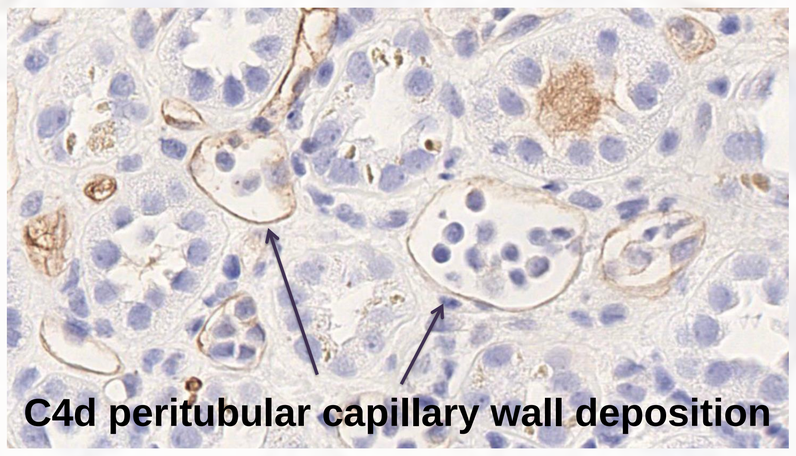
- Acute AMR early after transplant remains an immunological and therapeutic challenge
- Most treatments combine thymoglobulin (THY) and plasmapheresis (PEX), glucocorticoids, intravenous immunoglobulins (IVIG), glucocorticoids and rituximab (RTX)
- We present the case of an early acute AMR episode within 1 month of kidney transplant, in a recipient that was successfully treated with **upfront eculizumab**, without plasmapheresis.

Case:

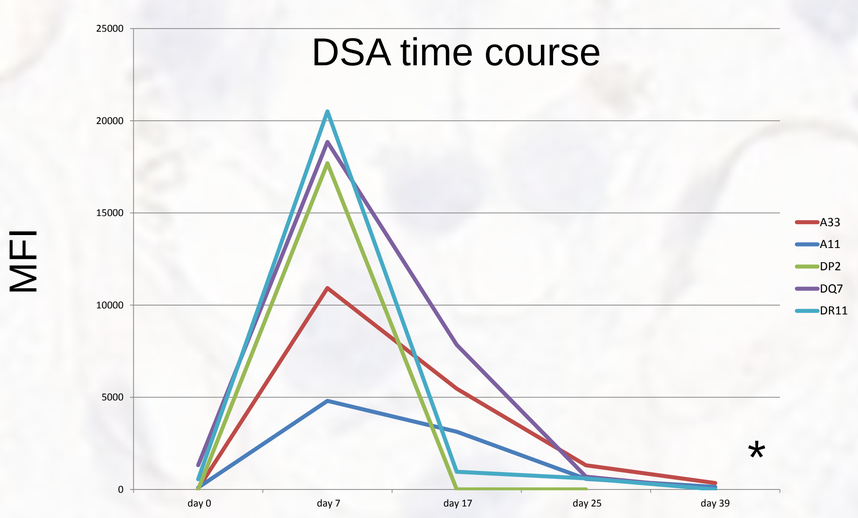
- A 58-year-old woman suffering from terminal kidney failure due to reflux nephropathy.
- 1st kidney allograft was immediately explanted because of primary non function due to arterial complications/thrombosis 16 months prior to the current (2nd) transplant
- 2nd kidney allograft from a deceased donor, with the presence of a donor specific antibody (DSA) anti-DQ7 (1316 MFI) with a negative CDC crossmatch (T&B) at day 0
- Thymoglobuline induction (day 0) stopped because of acute pulmonary edema, induction completed by Basiliximab (day 4)
- Acute AMR on day 9 with oliguria, decreasing renal function, de novo DSA and increasing of preformed anti-DQ7 DSA, confirmed by kidney biopsy







- Treatment with Methylprednisolone boluses + **Eculizumab 900 mg IV 2 dosis** (day 11 & 20) with excellent CH50 blockade (< 10% CH50 during 21 days).
- Consolidation treatment with Rituximab (375 mg/m2) and IVIG (total 2 g/Kg) over the following days
- **Excellent clinical response without need for plasmapheresis**, with increasing urine output and decreasing creatinine within 24-48 h



* No DSA at 3 month post after transplantation

Conclusion:

- Upfront eculizumab administration rapidly reversed the acute AMR after kidney transplantation
- No need for DSA removal by PEX, no T-cell depleting agents such as thymoglobulin were used
- More studies are needed to evaluate the efficacy of a short course of upfront eculizumab therapy to treat early acute AMR in highly sensitized recipients

Poster number: F-PCL-28