Late antibody-mediated rejection with inferior allograft prognosis compared with early rejection: A single-center study

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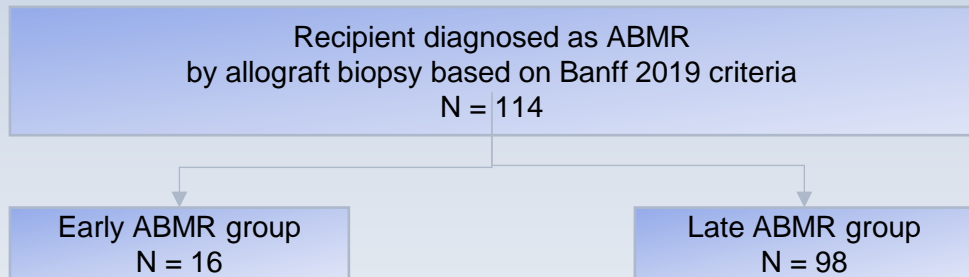
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Background

- The Transplantation Society expert consensus in 2019 focused on early ABMR within 30 days post-transplantation with aggressive deterioration
- Few studies compared the features and prognosis between early and late rejection

Study design

A single-center retrospective cohort study

Recipient diagnosed as ABMR
by allograft biopsy based on Banff 2019 criteria
N = 114

Early ABMR group
N = 16

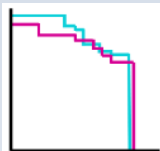Late ABMR group
N = 98

Research outcome
- Graft survival
- estimated glomerular filtration rate (eGFR), cystatin C, proteinuria

Result

Late ABMR had more severe chronic lesions than early ABMR
- cg: 0.68 ± 1.07 vs 0.06 ± 0.25, p = 0.023
- ci: 1.32 ± 0.62 vs 0.56 ± 0.73, p < 0.001
- ct: 1.31 ± 0.67 vs 0.69 ± 0.70, p = 0.001

Late ABMR had markedly diminished survival rates than early ABMR
- Two-year survival: 81.8% [74.0% - 94.0%] vs 100%, p = 0.017

Late ABMR exhibited poorer allograft prognosis than early ABMR
- Two-year eGFR: linear regression coefficient = -36.9 [-58.6 - -15.1], p = 0.001
- Two-year ΔeGFR: linear regression coefficient = -31.3 [-51.8 - -10.8], p = 0.003
- One-year cystatin C: linear regression coefficient = 1.76 [0.01 - 3.51], p = 0.049
- Incidence of one-year proteinuria: 48.08% vs 9.09%, p = 0.02

Conclusion: Preexisting antibodies predominantly contribute to early rejection, while late rejection is associated with significantly worse allograft prognosis than early rejection. Regular testing of PRA is valuable for early detection of antibody-mediated rejection.