

TRANSPLANTATION

IgG reactivity to apoptotic cells —role in presensitization revealed

Presensitization, a long-standing cause of graft failure in solid organ transplantation, is largely attributed to anti-HLA and anti-ABO antibody-mediated reactions. Now, pretransplant levels of apoptotic-cell-reactive IgG have been found to correlate with late kidney allograft loss. “These antibodies have never been associated with presensitization before,” explains lead researcher Emmanuel Zorn.

In a study comprising 300 kidney transplant recipients, patients who experienced late kidney allograft loss were found to have significantly greater pretransplant IgG reactivity to apoptotic cells than those with functioning allografts. Additionally, in patients in whom allograft loss was attributed primarily to antibody-mediated rejection, pretransplant IgG reactivity was significantly higher than in patients with other primary causes of allograft rejection. This observation held even after

exclusion of patients with pre-existing anti-HLA antibodies.

To confirm that IgG-mediated effects were not an anti-HLA reaction, HLA-knockout cells were exposed to purified apoptotic-cell-reactive IgG. Differences in binding were not detected compared with HLA-positive control cells; to which antigen IgG binds remains unclear.

“We believe the identification of patients with high IgG reactivity to apoptotic cells who are at risk of rejection will help reduce the rate of late graft loss,” concludes Zorn. He adds that the precise mechanism of this IgG-mediated allograft rejection and the exact source of these antibodies are the subject of further investigation.

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