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Non-HLA antibodies in solid organ transplantation: recent concepts and clinical relevance.

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Source

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Abstract

PURPOSE OF REVIEW:

Humoral responses beyond major histocompatibility antigens continue to receive the attention of the transplantation community. We report on clinical studies testing clinical relevance of non-human leukocyte antigen (HLA) antigens in solid organ transplantation and provide an update on novel experimental findings. A conceptual framework on the role of graft microenvironment during initiation of non-HLA-related humoral immunity is addressed as well.

RECENT FINDINGS:

Clinical relevance of antibodies targeting angiotensin type 1 receptor (AT1R-Abs) is broadly confirmed in renal and cardiac transplantation, where in addition antibodies against endothelin type A receptor (ETAR-Abs) were found. Obliterative lesions in lung allografts occur more commonly in the presence of antibodies directed against K- α 1 tubulin and collagen-V. Anti-perlecan antibodies are newly identified as accelerators of obliterative vascular lesions. Changes in the intragraft microenvironment, ischemia and alloimmunity seem to represent important permissive factors for non-HLA antibody responses.

SUMMARY:

Confirmed clinical relevance of non-HLA humoral responses in solid organ transplantation emphasizes the need for revision of classical diagnostic approaches based solely on detection of HLA-donor-specific antibodies (DSA). A better understanding of intersections of HLA- and non-HLA-related mechanisms and identification of common effector mechanisms would represent an important step towards targeted therapies.