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A HETEROPHILE SYSTEM IN HUMAN RENAL TRANSPLANTATION

II. Relationship to Clinical Renal Transplantation and the HL-A System[1, 2]

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SUMMARY

The relationship of a transplantation heterophile system to renal transplantation and the HL-A system was studied in the recipients of 64 renal allografts. Sensitization of recipients to the heterophile antigens prior to transplantation was associated with rejection in 6 of 8 allografts. The occurrence of acute rejection in patients not previously sensitized to the heterophile antigens correlated closely with heterophile reactivity. Fifteen of sixteen acute rejection episodes were associated with a rising titer of heterophile antibody and 25 of 29 patients without rejection did not have an unexplained significant rise in titer. No correlation between HL-A incompatibility and acute rejection was found and the heterophile system was shown to be serologically unrelated to the HL-A system. Frequent determinations of the heterophile antibody titer in transplantation recipients proved a useful serological aid in the diagnosis of rejection. This heterophile system has many of the characteristics of a compatibility system and appears related to acute and "accelerated" acute rejection but not to hyperacute or chronic rejection.

In the preceding paper it was concluded that heterophile antibodies related to renal transplantation reacted with antigens present on rat erythrocytes but not present on sheep erythrocytes. Similar or identical antigens which also reacted with and could stimulate the production of these heterophile antibodies were found in human kidneys and various gram-negative bacteria. Some patients sensitized to these antigens, presumably by previous infections, were identified (*2*).

This paper will consider the relationship of the heterophile immune response to clinical renal transplantation, the value of monitoring the response in the diagnosis of acute rejection, and the relationship of the system to the HL-A system.

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MATERIALS AND METHODS

Clinical Material

The recipients of 64 renal allografts were studied. Living relatives provided 38 allografts and cadavers provided 26. The diagnosis of rejection was made by record review (by Dr. Edward S. Lindsey) without knowledge of the serological findings.

Definitions

For the purposes of this presentation the following terms are defined.

Hyperacute rejection. That set of events lead-