AFFECT OF CLASS I AND CLASS II HLA GROUPS ON GRAFT AND PATIENT SURVIVALS IN KIDNEY TRANSPLANT PATIENTS

M. TURAN, G. MORAY, N. BILGIN AND M. HABERAL

Baskent University, School of Medicine
Department of General Surgery
Transplantation Unit
Ankara, Turkey

1. Introduction

In kidney transplantation, graft and patient survival is affected by various factors related to donors and recipients. Human leukocyte antigen (HLA) complex is the important one among them [1]. Recipient characteristics such as race, sex, age, original disease, and pretransplant sensitization, and donor characteristics such as age, age disparity between donor and recipient [1], and cold ischemic time of graft are the other factors well known to influence short- and long-term graft success. HLA complex encodes four classes of genes, the first two of which provide the major antigenic stimulus in allograft rejection. Class I products (HLA-A, -B, and -C) are constitutively expressed in humans by most tissue and cells except erythrocytes. Class II products (HLA-DR, -DP, -DQ) are much more limited in distribution and are normally expressed on B lymphocytes, dendritic cells, monocytes and macrophages. The first kidney transplantation in Turkey was performed on November 3, 1975 by our team. Among 1071 kidney transplantations performed in our centers from November 3, 1975 to April 1, 1996, the last 750 were performed in our new center, Baskent University Hospital. We have made a retrospective single-center study to determine the relevance of serologic HLA matching on 1-, 3-, and 5-year kidney graft and patient survivals in our live-related and cadaveric kidney transplant patients treated with cyclosporine (CyA).

2. Materials and Methods

A total of 750 patients, 555 males and 195 females (Figure 1), were included in the study, with an average age of 32.13 years range 8 to 62 years. All patients were serologically tissue typed for the HLA Class I (ABC locus), using typing trays (ONE-LAMBDA-INC). The last 261 patients, 117 males and 94 females (Figure 2), with an average age of 32.38 years range 8 to 62 years, were also serologically tissue typed for the HLA Class II (DR, DQ locus), using typing trays (ONE-LAMBDA-INC). The kidneys were transplanted in a standard fashion, provided with a negative crossmatch. The immunosuppressive regimen for all patients consisted of azathioprine 2 mg/kg/d, CyA 5 mg/kg/d, and prednisolone 100 mg given on the day of surgery and then tapered to 10 mg/d at fourth month. CyA dose was regulated according to blood level, using the fluorescence polarization immunoassay (FPIA) technique (Tdx-Abbott). All rejection episodes were treated with pulse methylprednisolone, 250 mg/d, iv for 3 consecutive days besides the basic regimen. In steroid resistant rejection episodes OKT-3 and plasmapheresis used on alternating days [2]. At first, all patients evaluated accord-