Prevelance of CMV Infection/Disease in Patients with Glomerular Disease Treated by Immunosuppressive Treatment

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AIM:

Cytomegalovirus serology is positive in majority of the population. It can be activated and resulted with substantial morbidity and mortality in immunocompromised patients. CMV can be presented as CMV infection (asymptomatic), CMV disease or tissue invasive CMV in immunocompromised patients. While the most of the CMV infection has been reported in kidney transplantation population, there is no study showing the frequency of CMV infection in glomerular diseases treated by immunosuppresive treatment.

METHOD:

Retrospectively, a total of 132 patients, who had kidney biopsy between 2005-2012 and have glomerular disease treated with immunosuppressive drugs were screened in our center. Fourteen patients were excluded, because 12 patients were lost at follow up and data about two patients were insufficient. Total of 118 patients, 63 female and 55 male were included to the study. CMV infection/disease was diagnosed on the basis of blood CMV DNA(copy/mL) and clinical symptoms with laboratory findings. CMV DNA levels measured with PCR. Patients with and without CMV infection/disease compared for age, gender, preexisting diabetes or hypertension, serum albumine and creatinine levels, renal pathology(evaluated in three groups: 1-SLE, 2-vasculitis-RPGN, 3-nephrotic syndrome) and immunosuppressive regimen(Group 1- Only Steroid, Group 2-Steroid with cyclophosphamide, Group 3-Steroid with cyclosporine A, Group 4-Steroid with azothiopurine or mycophenolate mophetile).

RESULTS:

The mean age of patients was 45±15 years. CMV infection/disease developed between 1st and 5th months after starting immunosuppressive drugs. We observed 25 patients (21,2 %) having CMV infection/disease, 7 of patients had CMV infection and 18 of patients had CMV disease. The CMV DNA median level was 7190 copy/mL(min-max: 1100-205.500 copy/mL). Basal creatinine level was significantly higher in patients who developed CMV infection/disease(p=0,000). There was no statistically significant difference between age, gender, serum albumine level, 24 hour urinary protein level, renal pathology, preexisting diabetes or hypertension and to have CMV infection or disease. There was no difference between immunosuppressive regimens, but patients treated with steroid and cyclophosphamide had more frequently CMV infection/disease(Group 1: 13%, Group 2: 29%, Group 3: 11.1%, Group 4: 13,3%). Seven(38,9%) of 18 patients developed CMV infection/disease in vasculitis and RPGN group, 2(10%) of 20 patients with SLE and 16(20%) of 80 patients with nephrotic syndrome . There were 16 patients(32%) with renal failure versus 9 patients (13%) without renal failure developed CMV infection/disease. No patient died because of CMV infection, but at follow-up 7 (38,9%) of 18 patients died after CMV disease. After logistic regression analysis we found that, older age and presentation with renal failure is an independent risk factor to develop CMV infection/disease(p=0,009, p=0,037).

CONCLUSION :

CMV infection/disease is not an uncommon complication in glomerular diseases treated by immunosuppressive drugs. Although well established infection prophlaxis and screenings have been defined for kidney allograft recipients, neither screening nor any prophylactic drugs were recommended for patients with glomerular diseases under the immunosuppressive treatment. It merits further studies to consider prophylaxis against CMV infection/disease in glomerular diseases treated by immunosuppressive drugs.

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