

## Kidney Transplant Recipients With Rheumatic Diseases: Epidemiological Data From the Polish Transplant Registries 1998–2015

M. Ciszek<sup>a,\*</sup>, B. Kisiel<sup>b</sup>, J. Czerwinski<sup>c,d</sup>, E. Hryniewiecka<sup>a,e</sup>, D. Lewandowska<sup>d,f</sup>, S. Borczon<sup>d</sup>, W. Tlustochowicz<sup>b</sup>, and L. Paczek<sup>a,g</sup>

<sup>a</sup>Department of Immunology, Transplant Medicine and Internal Diseases, Medical University of Warsaw, Warsaw, Poland; <sup>b</sup>Department of Internal Diseases and Rheumatology, Military Institute of Medicine, Warsaw, Poland; <sup>c</sup>Department of Emergency Medicine, Medical University of Warsaw, Warsaw, Poland; <sup>d</sup>Polish Transplant Coordinating Centre, Poltransplant, Warsaw, Poland; <sup>e</sup>Department of Clinical Nursing, Medical University of Warsaw, Warsaw, Poland; <sup>f</sup>Department of Transplantation Medicine, Nephrology and Internal Diseases, Medical University of Warsaw, Warsaw, Poland; <sup>a</sup>Department of Bioinformatics, Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warsaw, Poland

### ABSTRACT

Chronic kidney disease (CKD) is a common complication of rheumatic disorders. We analyzed the incidence of different rheumatic conditions as a primary diagnosis of end-stage renal disease (ESRD) in kidney transplant recipients in Poland.

Data were received from the national waiting list for organ transplantation (Poltransplant) registries. Primary diagnosis leading to ESRD were analyzed in 15,984 patients who received kidney transplants between 1998 and 2015. There was no information about primary diagnosis in 4981 cases (31%) and in 1482 cases (9%) the diagnosis was described as unknown.

Rheumatic diseases were specified in 566 (5.14%) kidney transplant recipients: lupus erythematosus, (systemic lupus erythematous nephritis) in 211 (1.92%), vasculitis in 176 (1.60%), amyloidosis AA in 82 (0.75%), hemolytic uremic syndrome in 59 (0.54%), secondary glomerulonephritis in 24 (0.22%), scleroderma in 9 (0.08%), rheumatoid arthritis in 4 (0.04%) and Sjögren syndrome in 1 (0.01%). Graft survival at 1 and 5 years were significantly better in the nonrheumatic versus rheumatic group (90 vs 87% and 76 vs 72% respectively, P = .04). Recipient survival at 5 years was significantly better in the nonrheumatic group (88 vs 84%, P = .02).

Our study showed that systemic lupus erythematosus and systemic vasculitides are the major rheumatic causes of ESRD in the Polish population. Long-term graft and recipient survival were significantly better in the nonrheumatic versus the rheumatic group in the Poltransplant cohort.

**R** ENAL comorbidity is common in patients with rheumatic diseases. A study by Hill et al [1] showed an 18% prevalence of chronic kidney disease (CKD) stages 3 to 5 in the rheumatic outpatient group, as compared to 5% reported within the general population. There are several potential causes of nephropathy in rheumatic diseases, including drug-induced renal disease, various types of glomerulonephritis, and secondary renal amyloidosis. The most common rheumatic diseases are rheumatoid arthritis (RA), spondyloarthritis, osteoarthritis, gout, and chronic pain/fibromyalgia; however, kidney involvement is typical in the course of systemic lupus erythematosus (SLE) and

0041-1345/18 https://doi.org/10.1016/j.transproceed.2018.03.122 systemic vasculitides [2]. We present data on the incidence of different rheumatic conditions as a primary diagnosis of end-stage renal disease (ESRD) in kidney graft recipients transplanted in Poland between 1998 and 2015.

<sup>\*</sup>Address correspondence to Michal Ciszek, Department of Immunology, Transplant Medicine and Internal Diseases, Medical University of Warsaw, 59 Nowogrodzka St, Warsaw 02-006, Poland. Tel: +48225021461; Fax: +48225022127. E-mail: mciszek@onet.pl

#### MATERIALS AND METHODS

The national waiting list for organ transplantation and other obligatory registers related to transplantation medicine (eg, transplant recipient register, living donor register, register of serious adverse events and reactions) is an important part of quality and safety monitoring systems on the national level in Poland. All these registries cooperate online with the use of a web-based tool, www. rejestrytx.gov.pl. According to current legal regulations, the entity responsible for the administration of the waiting list is the Polish Transplant Coordinating Center, Poltransplant (a national competent authority in organ donation and transplantation), which cares about personal data safety, prevents data loss or destruction, and performs statistical analyses. Formally, the waiting list for organs started in 2003, but Poltransplant has collected data since 1998. The transplant recipient's record is created by the transplant center, which enters personal and medical data of the patient including primary or secondary kidney disease leading to transplantation. Kidney diseases leading to ESRD were analyzed in a formal manner in 15,984 patients referred to the national waiting list and transplanted between 1998 and 2015. Patients with no information about diagnosis were excluded from the analysis. Patients with "unknown" primary cause of ESRD were considered in the analysis as a nonrheumatic diagnosis. The nomenclature of rheumatic-related renal diseases was adopted from the United States Renal Data System (USRDS) Annual Report [2]. Results of graft and recipient survival at 1 and 5 years were not extrapolated and were calculated only for events for which the observation was complete, that is, when the given term of follow-up had passed and the information on recipient and graft survivals were available. Data were tested using the  $\chi^2$  test.

#### RESULTS

The prevalence of rheumatic diseases was calculated in the cohort of 11,003 patients. There was no information about primary diagnosis in 4981 cases (31%), mainly in patients reported in the beginning of the waiting list between 1998 and 2003. Rheumatic diseases were specified in 566 (5.14%) kidney transplant recipients: lupus erythematosus, (SLE nephritis) in 211 (1.92%), vasculitis in 176 (1.60%), amyloidosis AA in 82 (0.75%), hemolytic uremic syndrome in 59 (0.54%), secondary glomerulonephritis in 24 (0.22%), scleroderma in 9 (0.08%), rheumatoid arthritis (RA) in 4 (0.04%) and Sjögren syndrome in 1 (0.01%). In the vasculitis group, detailed diagnosis was mostly undefined (122 cases); in the rest of the group, 5 cases of Henoch-Schonlein syndrome, 22 of granulomatosis with polyangiitis, and 27 cases of Goodpasture syndrome were recorded (Table 1). Statistical analysis of transplant outcomes generally revealed better results in the nonrheumatic group of recipients. Graft survival at 1 and 5 years were significantly better in the nonrheumatic versus rheumatic group (90% versus 87% and 76 versus 72% respectively, P = .04). Recipient survival at 5 years was significantly better in the nonrheumatic versus rheumatic group (88 versus 84%, P = .02) (Table 2).

#### DISCUSSION

Our study showed that SLE and systemic vasculitides are the major rheumatic causes of ESRD in the Polish

Table 1. Prevalence of Rheumatic Diseases as Primary Cause of ESRD in 566 Rheumatic Kidney Recipients From the Total Group of 11,003 Kidney Transplants: Data From the Years 1998–2015

Primary diagnosis of ESRD	n	%
Lupus erythematosus (SLE nephritis)	211	1.92
Vasculitis	176	1.60
Amyloidosis AA	82	0.75
Hemolytic uremic syndrome	59	0.54
Secondary GN, other	24	0.22
Scleroderma	9	0.08
Rheumatoid arthritis	4	0.04
Sjögren syndrome	1	0.01

Abbreviations: ESRD, end-stage renal disease; GN, glomerulonephritis; SLE, systemic lupus erythematous.

population, accounting for 1.92% and 1.6% of cases, respectively. Other diseases like RA, systemic scleroderma, and Sjögren syndrome were the rare causes of ESRD in the Poltransplant cohort. This observation is consistent with the epidemiology of kidney diseases published in the latest USRDS Annual Data Report [2]. Lupus nephritis (LN) is the most common serious manifestation of SLE with an overall frequency of about 40% [3]. In the 1950s, the 4-year survival rate in LE was 50%; since then, both life expectancy and renal outcome have steadily improved [4]. However, a large meta-analysis by Tektonidou et al [5] indicates that improvement in LN outcomes plateaued in the mid-1990s with the risk of developing LN-related ESRD at 5, 10, and 15 years remaining at 11%, 17%, and 22%, respectively. Kidney transplantation provides a better survival benefit for SLE patients with ESRD than dialysis therapy [6]. The incidence of LN-related ESRD in the latest USRDS Annual Data Report is markedly lower than observed in Poltransplant cohort (1.92%). This discrepancy may be due to the fact that the American analysis covered years 2011-2015, while our report assessed years 1998 to 2017. Kidneys are frequently affected in systemic vasculitides, especially those involving small vessels [7]. In the Poltransplant cohort, systemic vasculitides accounted for 1.6% of all ESRD cases. However, most vasculitis-related ESRD cases were classified as "other vasculitis" (1.11%); granulomatosis with polyangiitis (GPA), Henoch-Schonlein syndrome, and anti-glomerular basement membrane disease accounted for 0.2%, 0.045%, and 0.25% of ESRD cases, respectively. The USRDS Annual Data Report found a significantly lower incidence of vasculitis-related ESRD (0.7%). Interestingly, the incidence of GPA-related ESRD was slightly higher in the USRDS cohort, as compared to the Poltransplant one. Taking into consideration that our cohort comprised almost exclusively patients of Caucasian ethnicity and that antineutrophil cytoplasmic antibody-associated vasculitides are far more prevalent in Caucasians, we would expect a higher incidence of GPA-related ESRD in our cohort. RA was a rare cause of ESRD in the Poltransplant cohort (0.04%). Kidney disease in RA patients may be due to several causes: drugs (mainly nonsteroidal antiinflammatory drugs), secondary amyloidosis, RA vasculitis,

Download English Version:

# https://daneshyari.com/en/article/8826907

Download Persian Version:

https://daneshyari.com/article/8826907

Daneshyari.com