Original Article

Epidemiology and Treatment of End Stage Renal Disease (ESRD) Patients in Kosovo in 2010

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Abstract

Introduction. The present report provide an information of epidemiology and treatment practice in end-stage renal disease (ESRD) patients treated with renal replacement therapy in Kosovo in 2010.

Methods. This report is based on the questionnaire of working group for renal registry in Kosovo for treatment of patients with ESRD. This registry was fully adopted according to requirements from ERA-EDTA registries (European Renal Association/European Dialysis and Transplant Association).

Results. There were 186 incident patients (day 1) in 2010, with an incident rate of 93.0 per milion of population (pmp). Of these 186 patients, 102 (54.8%) were men, and 84 were women (45.2%). The mean age of the incident patients was 53.1±15.6. Prevalence in 2010 was 694 patients treated with hemodialysis with a prevalent rate of 347 pmp, and female gender was present at 45%. Mean age of the prevalent patients was 54.8±11.6 years. The prevalence of primary renal diseases was as follows: diabetic nephropathy was present in 19.2%, hypertension 13.2%, chronic nephritis 23.2%, polycystic kidney disease 6.1%, pyelonephritis 4.6%, obstructive nephropathy 7.3% and unknown primary renal disease in 23.5% of patients. In 2010, 2 patients were treated with peritoneal dialysis. Renal transplantation has been performed in 115 patients. All patients were transplanted outside Kosovo. Crude death rate at the end of 2010 was 11.4%. The main cause of death in dialysis patients was cardiovascular disease (56%), followed by malignoma 13%, sepsis 7%, cerebrovascular disease 9% and other causes in 15%.

Conclusions. In conclusion, most of the epidemiological data and treatment practices for RRT patients in Kosovo are similar with other countries in the Balkan region.

Keywords: renal replacement therapy, incident patients, prevalent patients, kidney transplantation

Introduction

Renal replacement therapy (RRT) registries are important tool for evaluation of the trends and nephrological activity in each country or region [1,2]. Apart from the report related previous problems during the war in 1999, there was no established registry in our country [3]. The present report provides an update of epidemiology and treatment practice in patients with end-stage renal disease (ESRD) treated with renal replacement therapy in Kosovo in 2010. It is based on the questionnaire of working group for renal registry in Kosovo for the treatment of patients with renal replacement therapy. This registry was fully adopted according to requirements from ERA-EDTA registries (European Renal Association/European Dialysis and Transplant Association).

Methods

We have collected individual data of patients treated with renal replacement therapy. The data were collected from all dialysis centers in Kosovo for the:

a) total number of patients, disease and therapy report,
b) type of renal replacement therapy,
c) monitoring the quality of renal replacement therapy,
d) analysis of the collected data, which serve to advanced planning of health services and training of personnel.

According to the latest data due registration of population on April 2011, there are currently about 2 million citizens living in Kosovo.

Results

On 31st December 2010, Kosovo had seven dialysis centers. Within University Clinical Center in Kosovo, Pristina has one dialysis center, and one peritoneal dialysis unit (Figure 1). All dialysis centers in Kosovo are equipped with Fresenius Medical Care machines, whereas peritoneal dialysis is supplied with expendable material and solution from the...
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same company. Kosovo has no private dialysis centers. There were 186 incident patients (day 1) in 2010, with an incident rate of 93.0 p.m.p. Of these 186 patients, 102 (54.8%) were men, and 84 were women (45.2%). The mean age of incident patients was 53.1±15.6. Etiology of the primary kidney diseases in incident patients at day 1 in Kosovo during the year 2010 is presented in figure 2.

The prevalence of patients in hemodialysis in Kosovo has been rising from year 1999-2010 (Figure 3). In the first year after the civil war, we can notice an increase in the number of patients, because a large number of them were returned from abroad. In general we have annual growth up to 10%.

Kosovo has a rapid increase in the number of patients on renal replacement therapy (Figure 4). Kidney transplantation as a procedure has not yet been performed in Kosovo, so this is the reason for a low number of transplanted patients.

Fig. 1. Kosovo Dialysis Centers

Fig. 2. Incident Patients at Day 1

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Fig. 3. Prevalence of patients in hemodialysis in Kosovo from year 1999-2010

A large number of patients were transplanted in the neighboring countries such as: Macedonia, Turkey and Albania. Several patients were transplanted also in other European countries. We cannot be proud of treatment with peritoneal dialysis as well. There were only two patients in 2010, while in 2008 we did have 5 patients. As an imperative for the future we must commit ourselves to increase the number of patients treated with peritoneal dialysis in our country.

In Figure 5 we present the primary disease of prevalent regular hemodialysis patients in Kosovo in 2010. An increased prevalence of patients with the primary diagnosis of diabetes could be observed. Also there are several pathologies included such as: hypertension, glomerulonephritis, and urologic diseases.
Mean age of the prevalent regular chronic hemodialysis patients in 2010, in each particular hemodialysis center of Kosovo is presented in Figure 6. As the population in Kosovo is relatively young, comparing to the other countries, the mean age of prevalent regular chronic hemodialysis patients in Kosovo seems to be relatively low.

The extent of blood transmitted diseases in the community of dialysis patients is presented in Figure 7. Until 2005, the presence of blood transmitted diseases; especially in patients with hepatitis C virus (HCV) positive was worrisome. However, starting the treatment of renal anemia with epoetin beta, expectedly, gave us positive results on decreasing rapidly the prevalence of HCV positive patients.

On the other hand, before the erithropoetine era, the treatment of renal anemia with blood transfusions has led to a growing extent in cases with hepatitis C in our dialysis population (Figure 8).
The most frequent causes and mortality rates in dialysis during 1999-2010 are presented in Figure 9. After the war, until 2005 death rate was high, of around 14.5%. Meanwhile the conditions in dialysis were improved by vaccination against hepatitis and the treatment of renal anemia with erythropoietin. This fact has for sure influenced the decreasing death rate in our dialysis patients.

At the same time, from 1999-2005 the treatment of renal anemia in dialysis patients (apart from a few exceptions) was done with blood transfusion. From 2005 we have started treatment of patients with renal anemia using erythropoietin. In addition, this approach also resulted in improved quality of life, meanwhile decreasing the rate of hepatitis C infections.

**Discussion**

The treatment of patients with chronic renal disease in Kosovo has started in 1978. The first center was opened in Pristina, and latter on other centers were opened in the largest cities. At the beginning, the number of machines was modest, about 5 machines of type Redy, then 5 other machines of type Dracke Willock, and nowadays we poses around 90% of Fresenius Medical Care HD machines. Gradually, there was also a qualitative improvement in the equipment and materials that were supplied in other opened dialysis centers with an increase in the number of dialysis patients, in parallel with the gradual improvement in the quality of HD treatment. The first Kosovar patient with performed renal transplantation in Belgium was registered in 1986. Since then, there is a slow increase in the number of those patients who have been transplanted abroad, especially after 1999. Peritoneal dialysis has been applied since 1999. The maximum number of peritoneal dialysis patients in any single moment was 5, but due to the movement of our patients to other EU countries, as well as the material supply difficulties, now we have only 2 peritoneal dialysis patients. We hope that in the future there will be many more patients treated by peritoneal dialysis. Finally, recognizing the need for a better treatment of patients with RRT, we established the national renal treatment registry of patients with ESRD as an imperative.

During the war in Kosovo, many dialysis patients were forced to leave the country [3]. The low number of patients returned after the war, but many of them have died because of the war circumstances. The prevalence of patients till 2010 increased for 10%, which is a similar figure with the other neighbouring countries [4,5]. Nevertheless, the incidence of patients at day 1 in 2011 has slightly increased. The greatest problem during the first 5 years after the war was the treatment of HD patients, with present blood transmissible diseases. In 2005 there were 43% HCV positive patients. With the start of erythropoietin administration, the frequency tended to decrease rapidly, although the percentage is still relatively high compared to the other regional countries [4,5]. The highest percentage (14.5%) of the mortality of patients in hemodialysis was noted six years ago. Fortunately, with the improvement of the conditions of treatments, this percentage had decreased lately to 11%. The causes of...
death to the patients of hemodialysis were mainly the cardiovascular complications, again in accordance with the other regional results.

Conclusions

In conclusion, prevalence rate of HD patients was similar with neighboring countries, as was mortality, the use of erythropoietin and proportion of RRT modalities used. However, prevalence of the viral hepatitis infection was higher as compared with neighboring countries but in recent years a clear decrease of prevalence was observed.

Conflict of interest statement. None declared.

References