

ENDEMIC (BALKAN) NEPHROPATHY – INTERNATIONAL REGISTRY (EN REG) – PRELIMINARY DATA FROM THE ERA EDTA REGISTRY AND TWO ENDEMIC FOCUSES

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Objectives:

Endemic (Balkan) nephropathy (EN) is a chronic tubulointerstitial nephropathy frequently associated with urothelial cancer caused by aristolochic acid and is considered to be an environmental form of worldwide distributed aristolochic acid nephropathy. Disease is present in the rural areas alongside major rivers in Bosnia and Herzegovina, Bulgaria, Croatia, Romania and Serbia. Prevalence of EN is from 0.4 – 12.3% with recent reports indicating a decrease in incidence and prevalence of disease. In the recent decades technological improvement in agricultural practices significantly diminished the exposure to the environmental toxin. Therefore, it is expected that the proportion of EN patients on renal replacement therapy (RRT) will be decreasing. For the first time, a uniform diagnostic criteria for EN were accepted and published, allowing the critical revision of EN patients in different countries with EN. Next critical step in investigating the changes in incidence, prevalence and disease characteristics is a formation of international registry of EN patients. In that respect, a project **Endemic (Balkan) Nephropathy in the ERA-EDTA Registry (EN-REG)** was started. Of EN countries only Bulgaria was not included in the recent ERA EDTA registry reports. The aim of the project is to acquire data that are already submitted to the ERA EDTA registry along with specific data regarding EN including positive family history, longtime residence in endemic focus, history of urothelial malignancy and presence of proximal tubule damage in EN patients on renal replacement therapy from all EN countries.

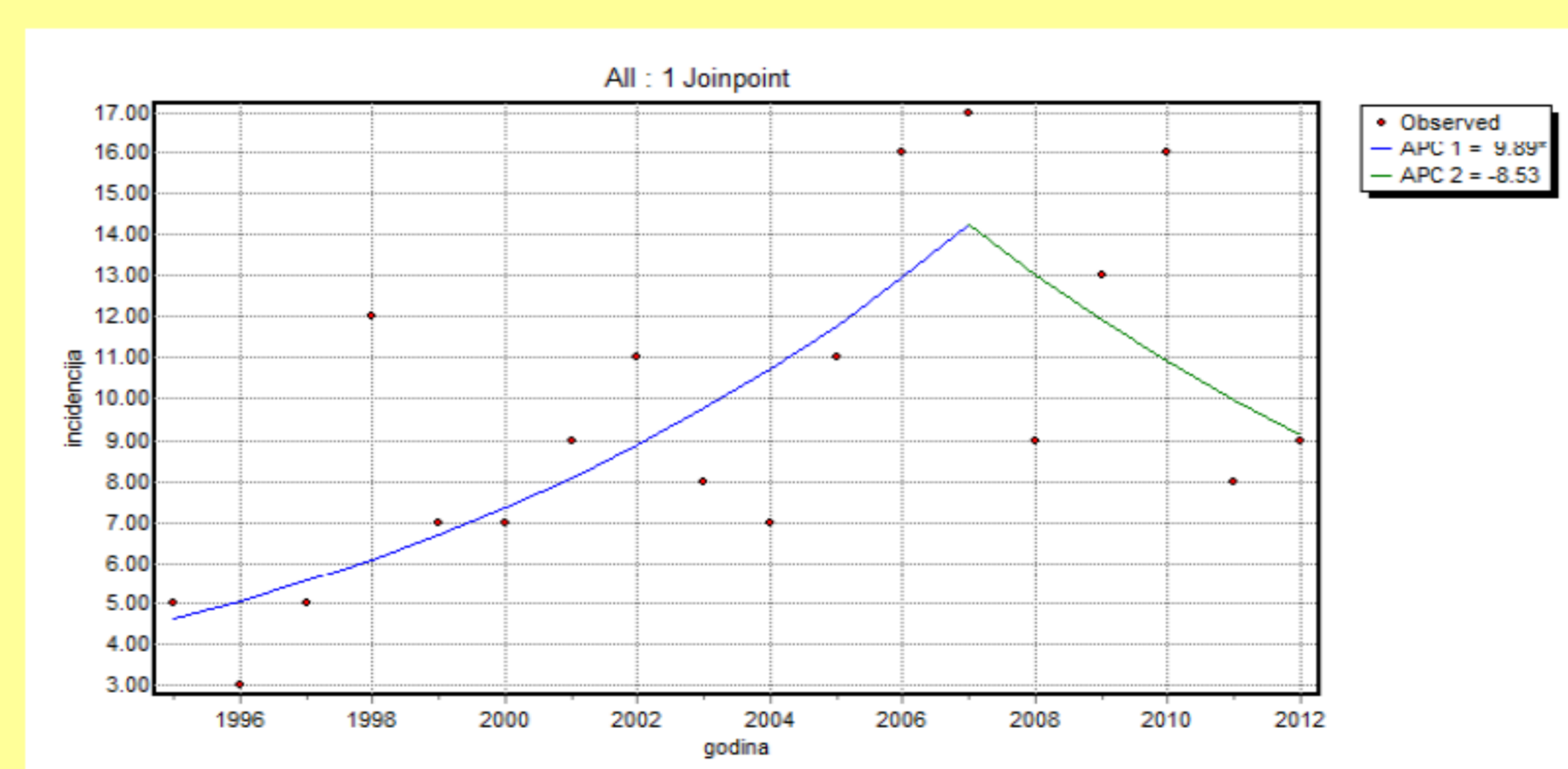
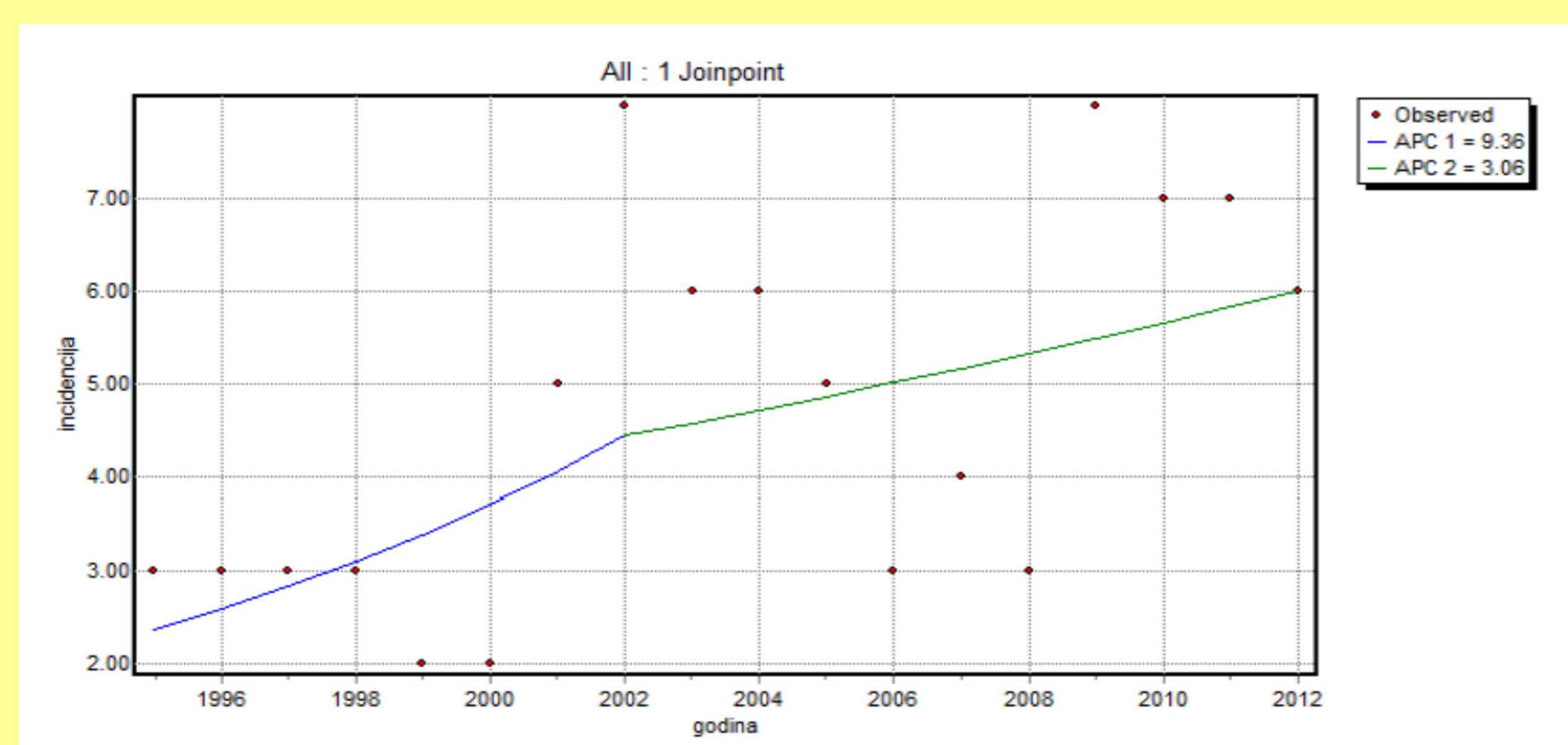
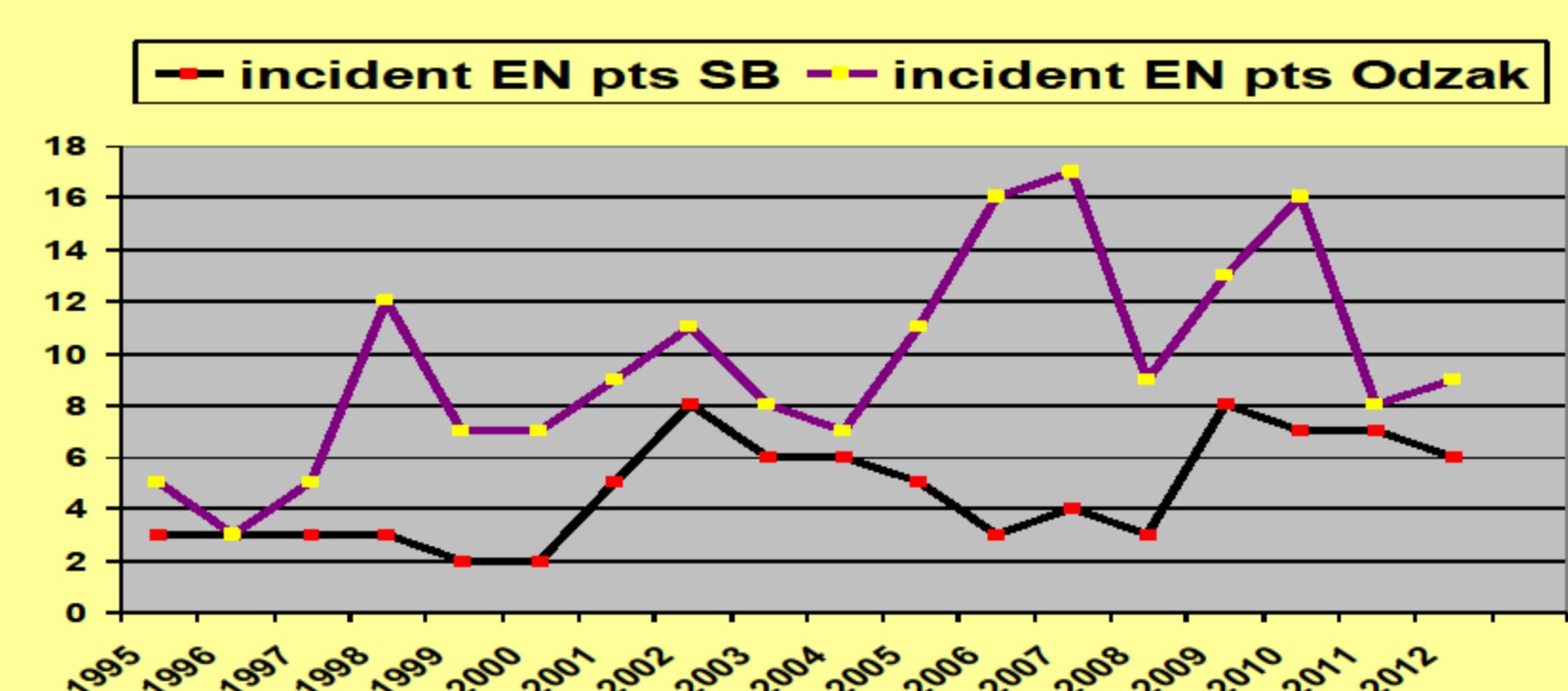
Methods and subjects:

ERA EDTA Registry provided number of EN patients who started RRT from 1995 to 2011 in Europe. Data from EN patients who started RRT from Dialysis unit from Slavonski Brod, Croatia, and Odžak, Bosnia and Herzegovina was collected and analyzed. SPSS 15 and Joint point regression coefficient was used for analyzing differences among groups and time trends.

Results:

	RRT (hd+capd+tx)		p
	Slavonski Brod, Croatia	Odžak, BIH	
	N (%)	N (%)	
Gender, female	40 (40.4)	125 (61.6)	0.001
Family history	82 (82.8)	146 (71.9)	0.049
History of UUC	18 (21.7)	32 (15.8)	0.231
History of bladder cancer	7 (8.4)	9 (4.4)	0.182
Arterial hypertension	55 (75.3)	116 (67.8)	0.241
Diabetes mellitus	6 (8.1)	22 (12.6)	0.302
Kidney transplantation	13 (13.1)	3 (1.5)	<0.001
Overall mortality	62 (63.3)	160 (78.8)	0.004

In the countries submitting individual data in the ERA EDTA registry, 632 patients with EN (322 Bosnia and Herzegovina, 237 Serbia, 88 Romania) were registered in the period from 1995-2011. Remaining patients were registered in Austria (N=14), Belgium (N=6) and France (N=9) emphasising the need for revision and analysis of submitted data to ascertain whether these are immigrants from endemic regions and to further improve accurate identification of patients with EN. To test the feasibility of the project, in the pilot study conducted in Croatia and Bosnia we collected data of EN patients that are currently on RRT or have started in the period from 1995-2012. From 1995 a permanent increase of incident EN patients on RRT was noted in Croatia (by 5.4% every year). Number of prevalent EN patients as well as prevalence of EN patients on RRT is decreasing in Bosnia while the number of incident EN pts was rising till 2006 when there is declining trend. No significant difference in age at the start of RRT between two centres was found with a shift towards the older ages. Mortality was higher in Odžak (78.8% vs. 57.1 %) with no difference in the age of death (71.5 i 72.5; p 0.605).



Time trends of incident EN pts on RRT in Slavonski Brod, Croatia and Odžak, Bosnia

Conclusions: This project, based on the data acquired from the ERA EDTA registry for the period 1995-2012 and data from two dialysis centres is the first step in formation of a global EN registry followed in the future by formation of an aristolochic acid nephropathy registry while EN is the environmental form of this toxic nephropathy.