

*In Memoriam***VLADISAV STEFANOVIĆ (1943 – 2015)  
AN ACADEMICIAN, DOCTOR, SCIENTIST, VISIONARY AND FRIEND**

Academician V. Stefanović unexpectedly passed away in October of the last year, leaving his family and friends. However, his work, vision and friendship remain with us and show us the direction our work should take.

I met Stefanović in the early 80's during one of my visits to Nis, at a meeting he organized together with professor Spira Strahinjić. Professor Spira Strahinjić had built a strong nephrology center in Nis which became well-known in the Balkans and the world. Academician Stefanović, who had been educated in France and became an excellent doctor and researcher, with friends among world-renowned nephrologists, was a key figure in the realization of ideas on scientific development of the Nephrology Clinic of the Faculty of Medicine, University of Nis. He has published a great number of papers and he is one of the most productive medical scientists in Serbia, the Balkans, as well as in Europe. He has pointed to the need of expert scientific development based on research results and he fought for quality of the published papers.

We had the same ideas related to the need for research in nephrology, especially concerning Balkan endemic nephropathy (BEN) and our cooperation, which started in the 80's, lasted until his unexpected death in late 2015. Together with our associates, including the participation of our colleagues from Bulgarian and Macedonian Academy of Sciences we have published several papers about BEN. Some studies and ideas about the research of BEN were among the first in scientific community.

**Editorial**

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0250-8095/91/0111-0001\$2.75/0**Balkan Nephropathy****Kidney Disease beyond the Balkans?**Vladislav Stefanović<sup>a</sup>, Momir H. Polenaković<sup>b</sup><sup>a</sup>Institute of Nephrology and Hemodialysis, Faculty of Medicine, Niš, Yugoslavia;<sup>b</sup>Department of Nephrology, Faculty of Medicine, Skopje, Yugoslavia**Introduction**

Balkan nephropathy is a chronic tubulointerstitial disease, encountered in some well-defined areas of Yugoslavia, Bulgaria and Rumania. Geographically, settlements where Balkan nephropathy is endemic are in southeastern Europe, along the affluents of the Danube, within an area of 400–500 km diameter (fig. 1). The regions of Balkan nephropathy are limited to a relatively small area north and south of the Danubian Iron gates and located in a few spots along the tributaries of this

**Etiology of Balkan Nephropathy**

The etiology of Balkan nephropathy has attracted much interest, and broad investigations have been conducted into the possible role of genetic factors, environmental agents (living agents, trace elements, fungal and plant toxins) and immune mechanisms. Despite the failure to show a single specific cause of Balkan nephropathy, evidence has been obtained on the factors associated with the disease.

Stefanović V, Polenaković MH. Balkan Nephropathy: Kidney Disease Beyond the Balkans?  
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# OXFORD TEXTBOOK OF CLINICAL NEPHROLOGY

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## 6.7 Balkan nephropathy

MOMIR H. POLENAKOVIĆ AND VLADISAV STEFANOVIĆ

Balkan nephropathy is a familial chronic tubulointerstitial disease, encountered in some restricted areas of Yugoslavia, Bulgaria, and Rumania. The first description of the disease in Yugoslavia was made by Danilović *et al.* (1957) and in Bulgaria by Tanchev *et al.* (1956). The earliest observation of an increased incidence of renal disease in some of the present endemic settlements was made by practising physicians in about 1941 and 1942.

### Geographical distribution

Balkan nephropathy is geographically located in the areas of south-eastern Europe, along the tributaries of the Danube (Fig.

1), within an area of about 400 to 500 km<sup>2</sup>. The endemic areas in Yugoslavia, Bulgaria, and Rumania border on one another and the distance between them is not more than 100 km. The disease is limited to a relatively small region north and south of the Danubian Iron Gates and located in a few areas along the tributaries of this river in the plains and low hills at an altitude of 150 to 500 m above sea level, some distance from the mountainous regions of the Balkans and Carpathians. The region where Balkan nephropathy is detected generally have high humidity and high rainfall. No local geological peculiarities have been described.

Polenaković MH, Stefanović V. Balkan Nephropathy. In: *Oxford Textbook of Clinical Nephrology*. eds. Cameron S, Davison AM, Grünfeld J-P, Kerr D, Ritz E. Vol.1-3. Oxford University Press; 1992:857-66  
Our last study was published in *Clinical Nephrology*. Vol. 83 – Suppl. 1/2015 (S64-S69)



## Balkan nephropathy

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### Key words

Balkan nephropathy  
– urothelial tumors –  
etiology – prevention –  
treatment

**Abstract.** Balkan endemic nephropathy (BN), frequently associated to upper urothelial cancer, is a familial chronic tubulointerstitial disease with insidious onset and slow progression to end-stage renal disease. After 60 years of research, its cause remains the major unanswered question. Etiology as-

sume River in Bosnia, Bulgaria, Croatia, Romania, and Serbia [1]. An estimate of more than 10,000 of affected or at-risk individuals makes this disease an important public health problem in the Balkans. A high prevalence of upper tract urothelial tumors (UTUT) of

Stefanovic was an excellent educator of young doctors in nephrology, internal medicine and wider medical field. In cooperation with the members of the Bulgarian Academy of Sciences we have been researching the etiology of Balkan endemic nephropathy and kidney tumors. He was particularly interested in molecular biology, genetics, proteomics and epigenetics. Together with his colleagues from Europe and the rest of the world, he worked on those areas that might contribute to etiology and pathogenesis of Balkan endemic nephropathy. He participated in numerous scientific meetings and I here provide a photo of our BEN research team taken in Skopje in 2014 on the occasion of my birthday at the Macedonian Academy of Arts and Sciences.



Left to right: D. Plaseska-Karanfilska, N. Pop-Jordanova, M. Polenkovic, D. Toncheva, K. Vagner, V. Stefanovic and A. Galabov

V. Stefanovic had many new ideas for researching in nephrology, especially concerning the research of BEN. We were in the process of writing a book on BEN and we are obliged to finish it and dedicate it to our dear academician. He lived a modest life, filled with energy and enthusiasm in his work with patients, students and colleagues. He will remain a role model – a pioneer in nephrology research.

He was dedicated to his family, particularly to his grandson – a musician and a guitar artist.

He and his work will be a constant inspiration to our future profession.

Academician Momir H. Polenković