

**BALKAN ENDEMIC NERHROPATHY AND ITS PUTATIVE ENVIRONMENTAL AND GENETIC CAUSES: A review.**

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**ABSTRACT**

Balkan endemic nephropathy (BEN) affects people living in the alluvial plains along tributaries of the Danube River in Bosnia, Croatia, Serbia, Bulgaria, and Romania. BEN is a slowly progressing, familial, chronic, non-inflammatory, bilateral, primarily tubulointerstitial, distinct nephritis, becoming overt usually in the fourth or fifth decade of life, and eventually leading to renal failure and death. Up to 40% of BEN patients have also urinary tract tumors. The prevalence of BEN is between 2 and 10% of the population at risk, and its incidence is between 10 and 15 cases per year per 10,000 people. BEN's geographic distribution, epidemiology, and clinical and laboratory findings are reviewed. Although the etiology of BEN is still obscure, researchers now agree that BEN may result from prolonged exposure to a multitude of environmental toxicants (e.g., ochratoxin, heavy metals, arsenic, polynuclear aromatic hydrocarbons, selenium deficiency, viruses) acting alone or synergistically on genetically predisposed individuals/populations. Prospective, well-coordinated, multidisciplinary studies, based on modern epidemiological designs and using the latest chemical, laboratory, clinical and geographic methodologies are needed to elucidate the etiology of BEN.