RESULTS AND DISCUSSION

Incidence of UUT in endemic, hypoendemic, and nonendemic areas are shown in the Figure 1. Comparison of incidence of UUT and bladder tumors in the last decade (1989-1998) with the previous two decade period (1969-1988) is shown in the Table 1. Male to female ratio in the recent decade compared to the previous two decade period is shown in the Table 2. Staging and grading of neoplasms in endemic and non endemic areas are shown in the Table 3.

DISCUSSION

Our results confirm the increased existence of urothelial tumors associated to BEN. During the recent years all hypothesis about these two entities suggested that they have the common etiological factor(s). The possible etiological factors could be summarized in several groups: intake of heavy metals, inges-
tion of the ochratoxin A, intake of chemicals derived from Pliocene lignites or infectious etiology (7). No one of these hypotheses is consistent, so multifactorial etiology of both diseases seems to be acceptable. There are several reports about decreasing incidence of BEN (4,5). Since the time of the first description of BEN in 1957, incidence of UUT was confirmed as almost 100 time greater (3). During the next years and decades, the close relationship between BEN and UUT remained, but the occurrence UUT was constantly decreasing as well as the concomitance (2, 3). Male to female ratio in our previous studies showed different male:female ratio in endemic, hypoendemic areas and general population (2). Data from the last decade confirms that male:female ratio in endemic areas became less specific in the recent time, and looks like the relationship in general population previously described in the literature on urology (1).

When the insight in the whole process is performed, BEN looks as a disappearing entity i.e. epidemiologically self-solved problem that will disappear exactly on the same way as it had grown up (6). UUT in endemic areas have the same trend, their incidence goes toward the incidence in general population, and difference in their malignancy in endemic and non endemic areas is less expressed. Habitual intake of laxatives, analgesics, smoking etc. is clearly proved as responsible for the most frequent occurrence of UUT. Importance of these facts is relatively higher when the influence of BEN is decreased. In our series we had the same incidence of recurrent tumors in the bladder and no cases with the metachronous bilateralism. Taking in account BEN in a decision making for the type of surgery does not look to be reasonable any more, especially when the survival of patients with BEN could be very long (8,9). Tumor grade and stage were not significantly different regardless the area of registration. It is hard to explain sex differences in the occurrence of UUT and bladder tumors in endemic and non endemic areas. One possible explanation is different urothelial susceptibility in males and females to ochratoxin A or another carcinogen (7).

Finally, it looks that BEN and associated urothelial cancer, after forty years of investigation, are still full of secrets with more questions than answers but fortunately less frequent, and less important health problem. Anyway, with this trend of decreasing incidence, we have to wait at least one or two decades to follow up the problem, before closing it.

REFERENCES