

Urolithiasis Among Citizens Of The Prishtina Region In Kosovo

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Abstract – Introduction: Urolithiasis is a common disease in urological practice and ranks third, immediately after malignant diseases and infections. The annual incidence per 10,000 inhabitants ranges from 6.8 to 20.8 persons.

Purpose: This paper aimed to assess the incidence of urolithiasis in the city of Prishtina and the surrounding area and compare the data with those in the literature.

Material and methods: Data for the diagnosis of urolithiasis have been collected from the outpatient register and the register for operative treatment of the Department of Urology at the University Clinic of Prishtina, including the period time 2018 -2020. The data are analyzed based on age, sex and location of stones.

Results: The total number of people diagnosed with urolithiasis was 152 (n = 152). Of these, 82 were female and 70 were male. The average age of women with urolithiasis was 50 years, while that of men with urolithiasis was 49 years old. Localization of concretions diagnosed in the urinary tract have been in favor of the kidneys by 90%, in the ureter and bladder by 5%, while in the prostate and urethra much less frequently, by 0.7%.

Conclusion: It has been found that the annual incidence of urolithiasis in the Prishtina Region and the surrounding area is 19.6 patients per 10,000 inhabitants. This incidence represents almost the highest value found in the literature that ranks Prishtina in endemic countries in terms of the occurrence of urolithiasis.

Keywords – Urolithiasis, Incidence, Prishtina.

I. INTRODUCTION

Renal calculi are a common cause of blood in the urine (hematuria) and pain in the abdomen, flank, or groin. They occur in one in 11 people at some time in their lifetimes, with men affected 2 to 1 over women. Development of the stones is related to decreased urine volume or increased excretion of stone-forming components such as calcium, oxalate, uric acid, cystine, xanthine, and phosphate. Calculi may also be caused by low urinary citrate levels or excessive urinary acidity (1).

Kidney stone disease is a crystal concretion formed usually within the kidneys. It is an increasing urological disorder of human health, affecting about 12% of the world population. It has been associated with an increased risk of end-stage renal failure. The etiology of kidney stone is multifactorial. The most common type of kidney stone is calcium oxalate formed at Randall's plaque on the renal papillary surfaces (2).

Renal colic accounts for about 1% of hospital admissions worldwide and is the reason for 80,000 emergency department visits per year in the UK. The initial episode is normally dealt with by urologists, but physicians are increasingly encountering patients with nephrolithiasis because of its association with hypertension, obesity, diabetes and osteoporosis (3).

Gender, hypertension, obesity, diabetes, and personal habits like alcohol consumption, opium use and, cigarette smoking is effective in the development of kidney stones. So, by identifying the susceptible patients and teaching them, the burden of the disease on society and the individual can be reduced (4).

The incidence of kidney stone disease (urolithiasis) is rising, with a lifetime risk of 10–15%, and a recurrence rate of 50% within 10 years. Associated complications include significant pain secondary to renal colic, urinary tract infection (UTI) and urosepsis, and chronic kidney disease. The increasing burden of urolithiasis means that optimizing its management in primary care is important (5).

Renal stone disease is common, with a worldwide prevalence of between 2 and 20%. Highest lifetime risk of stone formation has been reported in men in the United Arab Emirates (UAE) and Saudi Arabia (KSA). Prevalence within Europe ranges more narrowly between 2 and 8%; however, a recent study in Greece found prevalence as high as 15% in a rural population in Thebes. Epidemiological studies in the United States show a trend for increasing prevalence in women and those living in more southern latitudes: males in the southeast have a prevalence rate of 12% compared with 7% in the northwest (6).

An obese body mass index is associated with an increased risk of kidney stone disease. However, the magnitude of this risk appears to be stable in the morbidly obese population. Once body mass index is greater than 30 kg/m², further increases do not appear to significantly increase the risk of stone disease (7).

Kidney stone formers, even past stone formers, are likely to have accumulated risk factors for coronary heart disease. They could be preferentially targeted for coronary heart disease prevention (8).

The risk of hypertension was higher after the first symptomatic kidney stone event. However, kidney stone severity, type, and treatment did not associate with hypertension (9).

Symptomatic stone formers are at increased risk for ESRD (End-stage renal failure) independent of several cardiovascular risk factors. Other urological disease is relatively common among stone formers who develop ESRD (10).

II. AIM

To assess the incidence of calculus in the Prishtina Region and its surroundings.

III. METHODS

Data for the diagnosis of urolithiasis have been collected from the outpatient register and the register for operative treatment of the Department of Urology at the University Clinic of Prishtina, including the period time 2018 -2020. The data are analyzed based on age, sex and location of stones.

Statistical processing of collected data was done with SPSS program. Statistical significance of numerical data difference was tested with the help of t-test.

IV. RESULTS

The total number of people diagnosed with urolithiasis was 152 (n = 152). Of these, 82 were female and 70 were male. Figure 1 shows that out of the total number of 152 people with calculi, females were 82 or 54%, while males 70 or 46%, which refers to a significant dominance of calculi among females, (Figure 1).

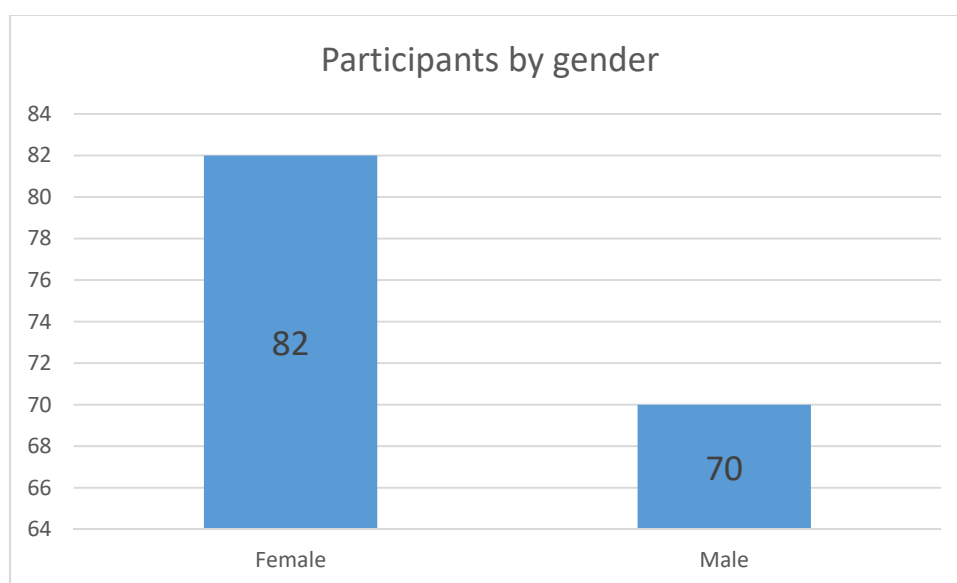


Figure 1 Participants by gender

The average age of women with urolithiasis was 50 years old, while that of men with urolithiasis was 49 years old.

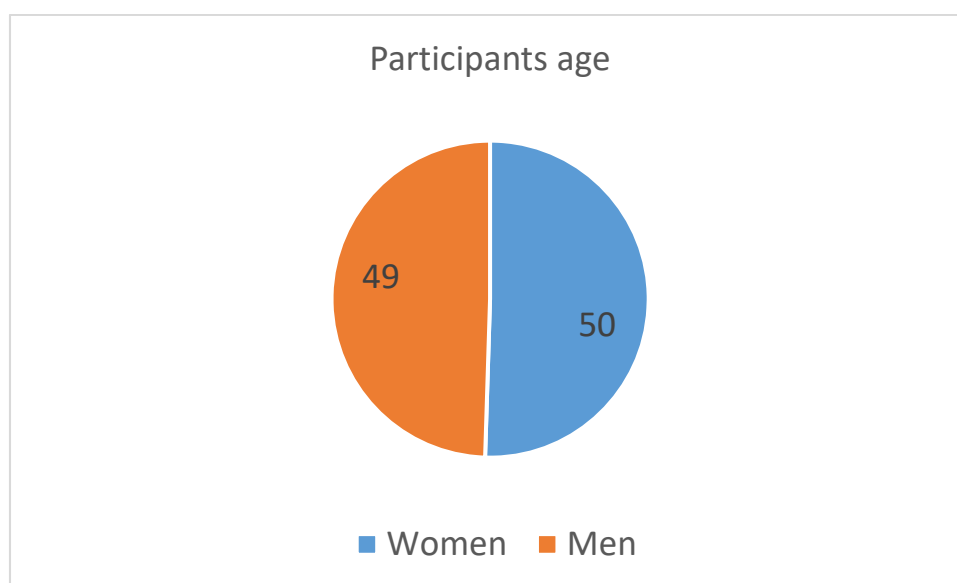


Figure 2 The age of participants

The localization of stones diagnosed in the urinary tract was mainly in the kidney with 94%, in the ureter and bladder with 5% each, and in the prostate and ureter much less frequently, with 0.7%.

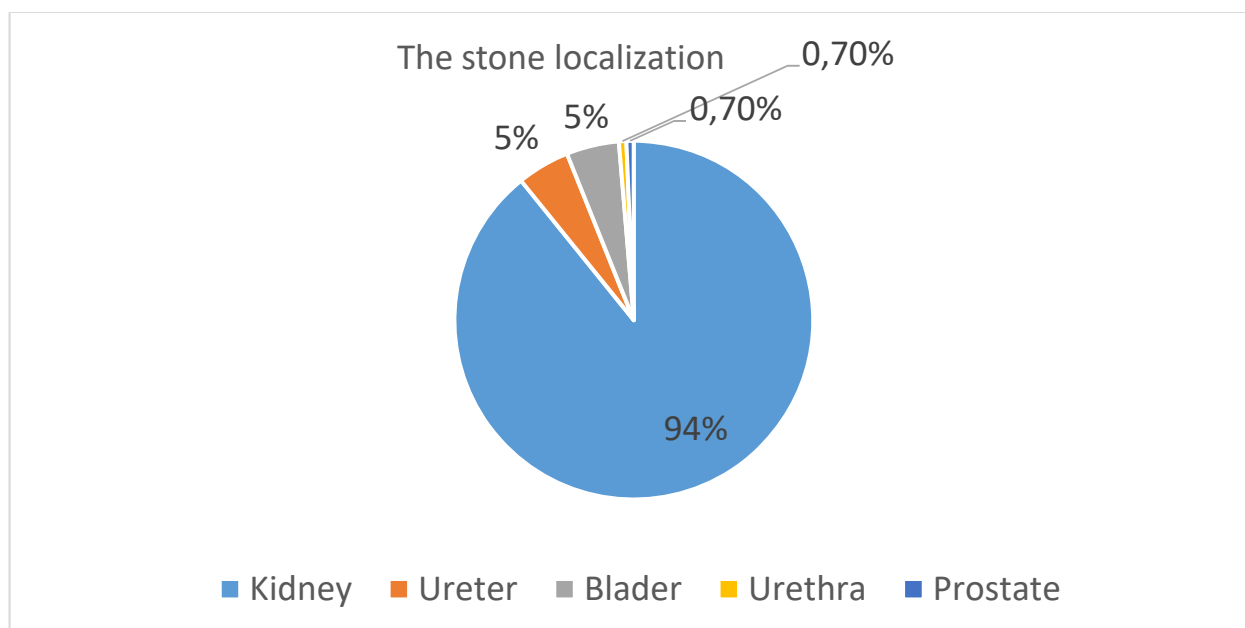


Figure 3 The localization of stones

V. CONCLUSIONS

Based on the findings of our research we can conclude that:

- The annual incidence of urolithiasis in Prishtina and the surrounding area is 19.6 patients per 10,000 inhabitants, which is almost the highest value found in the literature and ranks Prishtina in the endemic region in terms of urolithiasis incidence.
- Localization of stones in the urinary tract in the analyzed patients has been with a significantly greater dominance in the kidney with 94%, in the ureter and bladder with 5% and prostate and urethra with 0.7%.
- In terms of chemical composition, stones formed by oxalates dominate with 67%, then it is striated with 16%, acidic with 8%, cystine with 2% and mixed with 7%.

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