

EPIDEMIOLOGICAL RESEARCH AND CLINICAL UROLITHIASIS IN PRESEVO VALLEY

A. Fetahu ¹, A. Neziri ¹, F. Tartari ^{2,3}, G. Karamitri ², O. Qeva ², A. Daku ³

¹ University Clinical Center of Kosovo – Urology Clinic, Pristina

² University Hospital Center “Mother Teresa”, Tirana

³ American Hospital, Tirana

Introduction. Urolithiasis is a pathological process – disease characterized by the formation of stones in the urinary system.

Urolithiasis is a disease in which the incidence rate is increasing. It is estimated that 15% of people over 75 years average life, form stones in the urinary system, where the disease does not spare the inhabitants of any geographic, ethnic, or age groups. Clinically manifested between the third and sixth decade of life. Urolithiasis is a disease of multifactorial multiple processes which consists of socio – economic factors, genetic factors and constitutional factors.

Presevo Valley, includes three municipalities in southern Serbia with 67 villages and 3 urban centers (Presevo, Bujanovac and Medvedja), which extends over an area approximately 1,250 square kilometers and 100,000 inhabitants.

Material & Methods. In March– April period of 2002-2014 epidemiological studies have been made of the area’s population (Presevo Valley) which is involved in a number of population survey by the same epidemiological criteria.

The survey of residents was made by the author of this paper which surveyed 441 families in which the interviews were made and the data were obtained for 2506 members of families, of whom 1687 or 67.3% male and 819 or 32.7% of female. With the X2-test we have gained distinction by gender statistically significant ($X^2=53.1$, $P<0.001$).



Graph 1. Map of Presevo Valley

UROLITHIASIS SURVEY SHEET

I. Phone number: _____
 Mobile: _____
 1. Name _____
 Surname _____
 Municipalities _____
 A. Family head B. Of family
 2. A. City B. Country C. Migrated
 3. In your family has any kidney stones Yes No
 4. Name of the person who has the stones

 Year of birth _____
 5. How long have you noticed that there are kidney stones? Year _____
 6. Spontaneously someone has cast a stone in your family Year _____
 7. Stone is documented by Rontgen Yes No
 8. Broken stones with ESWL
 City _____
 9. Patient has been operated with stones Yes No
 10. Which side has had kidney stones Right Left
 11. There were stones in the ureter Right Left
 12. Have there been any recurrence of stone formation? Yes No
 13. How many members in your family have had stones? _____
 14. Your economic situation
 High Medium Weak
 15. How many members are in the family?

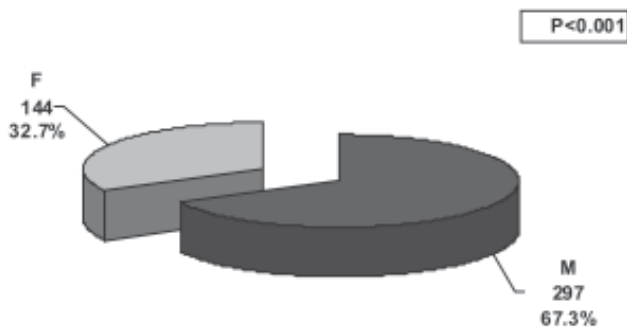
 City, country _____
 Date _____
 Signature _____

Graph 2. Urolithiasis survey sheet

Results. From 2506 members surveyed, urolithiasis of them are 441 people, of whom 297, or 67.3% male and 144 or 32.7% were females. With the X²-test we have gained distinction by gender statistically significant (X²=53.1, P<0.001) (Table 1).

Table 1
An surveyed by gender

Gender	N	%	X ² -test
M	297	67.3	X ² =53.1 P<0.001
F	144	32.7	
Total	441	100.0	



Graph 3. Structure surveyed by gender

The average age was 45.9 years (DS±13.4), range 14–90 years. The average age of the surveyed males was 46.3 years (DS±12.4), range 14–90 years. The average age of the surveyed females was 44.9 years (DS±15.2), range 19–89 years (Table 2).

Table 2
The average age of the surveyed by gender

Age (year)	Gender		Total
	M	F	
N	297	144	441
Overall	46.3	44.9	45.9
DS	12.4	15.2	13.4
Min	14	19	14
Max	90	89	90
Mann-Whitney test	P=0.027		

Families in the Presevo valley are usually large families, 27.4% have five members in a family, 25.4% have six members in a family, 13.6% have seven members in a family and 11 families have been 10 or more members in family.

From 2506 member's surveyed 246 cases or prevalence of kidney stones was 9.8%. Of all cases

of kidney stones were 107 or 43.7% of the right kidney stones, 98 or 39.8% left, 41 or 16.5% had stones in both kidneys. While gender, men were more stones on the right side 58 or 43.3%, as well as more women were on the right side 30 or 41.7% (Table 3).

Table 3
Prevalence of kidney stones in the households surveyed

	N	%
Total respondents	2506	100.0
In total with kidney stone	246	9.8

From 2506 members surveyed 56 cases or ureter stones prevalence was 2.2%. Both genders were mostly right ureter stones (M 17.2% vs. F 12.5%), then to the left (M 11.2% vs. F 6.9%), and on both sides (M 1.5% vs. F 2.8%) (Table 4).

Table 4
Prevalence of ureter stones in the households surveyed

	N	%
Total respondents	2506	100.0
In total with stone in ureter	56	2.2

Of all cases of kidney stones 88 or 42.7% were stones in the right kidney, 80 or 38.8% left, 34 or 16.5% had stones in both kidneys and 4 or 1.9% had kidney stones at the time of diagnosis but only in the ureter. While gender, more men had stones on the right side 58 or 43.3%, as well as more women were on the right side 30 or 41.7%. With the X²-test we have not won difference statistically significant with side of kidney stones by gender (X²=0.096, P=0.953 then P>0.05) (Table 5).

From 206 respondents (134 men and 72 women) with ureteral stones in the kidney and 7.8% they have stated that they have broken the stones with ESWL. Women more often have broken with stones ESWL 8.3% compared with 7.5% men (Table 6).

As shown in Table 7, 7.8% of cases of kidney or ureter stones have declared that they are operated. Males are more often operated 9.0% compared with 5.6% women X²-test but have not earned the distinction with statistically significant (X²-test=0.356, P=0.551, then P>0.05) (Table 7).

Table 5

An surveyed with kidney stone by stone localization

Kidney stones	Gender				Total		
	M		F		N	%	
	N	%	N	%			
Left	58	43.3	30	41.7	88	42.7	
Right	54	40.3	26	36.1	80	38.8	
Both sides	22	16.4	12	16.7	34	16.5	
Not in kidney	–	–	4	5.6	4	1.9	
Total	134	100.0	72	100.0	206	100.0	
X ² -test	X ² =0.096, P=0.953						

Table 6

Answers of respondents to the question: You have broken stones with ESWL? by gender

Stones broken with ESWL?	Gender				Total		
	M		F		N	%	
	N	%	N	%			
Yes	10	7.5	6	8.3	16	7.8	
No	124	92.5	66	91.7	190	92.2	
Total	134	100.0	72	100.0	206	100.0	
X ² -test	X ² =0.821, P=0.365						

Table 7

Answers of respondents to the question: Are you/were operated due to kidney stones? by gender

Operated	Gender				Total		
	M		F		N	%	
	N	%	N	%			
Yes	12	9.0	4	5.6	16	7.8	
No	122	91.0	68	94.4	190	92.2	
Total	134	100.0	72	100.0	206	100.0	
X ² -test	X ² =0.356, P=0.551						

Conclusions. Presevo Valley is known as endemic area Urolithiasis which could prove even according to the result of the incidence of high Urolithiasis of the respondents 7.6% where as the

disease invades the age-group most productive population 45.9 years and early the disease is treated with the application of modern methods ESWL, URS lithotripsy, Percutaneous nephrolitholapaxy.

Literature

1. Curhan G.C. *Epidemiology of Stone Disease* // *Urol. Clin. North. Am.* – 2007. – V. 34, N 3. – P. 287–293.
2. Hesse A., Brandle E., Wilbert D. et al. *Study on the prevalence and incidence of urolithiasis in Germany comparing the years 1979 vs. 2000* // *Eur. Urol.* – 2003. – V. 44. – P. 709–713.
3. Curhan G., Willett W., Rimm E. et al. *Family history and risk of kidney stones* // *J. Am. Soc. Nephrol.* – 1997. – V. 8. – P. 1568–1573.
4. Soucie J., Coates R., McClellan W. et al. *Relation between geographic variability in kidney stones prevalence and risk factors for stones* // *Am. J. Epidemiol.* – 1996. – V. 143. – P. 487–495.
5. Yoshida O., Okada Y. *Epidemiology of urolithiasis in Japan: a chronological and geographical study* // *Urol. Int.* – 1990. – V. 45. – P. 104–111.

6. Soucie J.M., Thun M.J., Coates R.J., McClellan W., Austin H. Demographic and geographic variability of kidney stones in the United States // Am. J. Epidemiol. – 1994. – V. 46. – P. 893–899.

Реферат

ЕПІДЕМІОЛОГІЧНЕ ТА КЛІНІЧНЕ ДОСЛІДЖЕННЯ СЕЧОКАМ'ЯНОЇ ХВОРОБИ У ПРЕШЕВО

А. Фетаху, А. Незірі, Ф. Тартари,
Г. Карамітри, О. К'єва, А. Даку

У статті подається інформація стосовно Прешево, яке відоме, як ендемічний район з сечокам'яної хвороби навіть серед загальної середньої високої захворюваності на сечокам'яну хворобу серед респондентів – 7,6%. Хвороба проявляється у віковій групі найбільш продуктивного населення 45,9 року та на початку захворювання лікується за допомогою сучасних малоінвазивних технологій таких, як ДЛТ, УРС та черезшкірна нефролітолапаксія.

Ключові слова: Прешево, ДЛТ, УРС, черезшкірна нефролітолапаксія.

Адреса для листування

F. Tartari
E-mail: flamurtartari@yahoo.com

Реферат

ЭПИДЕМИОЛОГИЧЕСКОЕ И КЛИНИЧЕСКОЕ ИССЛЕДОВАНИЕ МОЧЕКАМЕННОЙ БОЛЕЗНИ В ПРЕШЕВО

А. Фетаху, А. Незири, Ф. Тартари,
Г. Карамитри, О. Кьева, А. Даку

В статье говорится о том, что Прешево известно, как эндемический район по мочекаменной болезни даже среди общей высокой заболеваемости мочекаменной болезнью среди респондентов – 7,6%. Болезнь проявляется в возрастной группе наиболее продуктивного населения 45,9 года и в начале заболевания лечится с помощью современных малоинвазивных методик, как ДЛТ, УРС и чрескожная нефролитолитаксия.

Ключевые слова: Прешево, ДЛТ, УРС, чрескожная нефролитолитаксия.