Profile of Patients with Urinary Tract Stone at Urology Department of Soetomo General Hospital Surabaya in January 2016-December 2016

by Reza Kurniawan

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PROFILE OF PATIENTS WITH URINARY TRACT STONE AT UROLOGY DEPARTMENT OF DR. SOETOMO HOSPITAL SURABAYA IN JANUARY 2016-DECEMBER 2016

[1]Reza Kurniawan, [1]Tarmono Djojodimedjo, [1]Anny Setijo Rahaju.

[1]Department of Urology, Faculty of Medicine/Universitas Airlangga, Soetomo General Hospital, Surabaya.

ABSTRACT

Objective: *To identify the profile of patients with urinary tract stone at Urology Department of Dr. Soetomo Hospital Surabaya in January 2016-December 2016.* ***Material & methods:*** *This was a descriptive retrospective research conducted at Urology Department of Dr. Soetomo Hospital Surabaya. The data was obtained from medical records of patients diagnosed with urinary tract stone, with the amount of data collected was 62. The variables included were age, gender, address, main complaint, type and location of urinary tract stone.* ***Results:*** *The ratio of male:female among patients with urinary tract stone is 33:29. Most of the patients with urinary tract stone was aged 46-60 years old (52%); came with the main complaint of flank pain (79%); had uric acid type of urinary tract stone (48%); and had urinary tract stone located at the kidneys (65%).* ***Conclusion:*** *Profile of patients with urinary tract stone at Urology Department of Dr. Soetomo Hospital Surabaya is as following: Ratio of male:female among patients with urinary tract stone is 33:29. Most of the patients with urinary tract stone was aged 46-60 years old, came with the main complaint of flank pain, had uric acid type of urinary tract stone, and had urinary tract stone located at the kidneys.*

Keywords: *Urinary tract stone, age group, gender, main complaint, type of urinary tract stone, location of urinary tract stone*

ABSTRAK

Tujuan: *Penelitian ini bertujuan untuk mengidentifikasi profil pasien batu saluran kemih di SMF Urologi RSUD Dr. Soetomo Surabaya Periode Januari 2016-Desember 2016.* ***Bahan dan cara:*** *Penelitian ini adalah dekriptif retrospektif yang dilakukan di SMF Urologi RSUD Dr. Soetomo Surabaya. Data didapatkan dari rekam medis yang didiagnosis batu saluran kemih, dengan jumlah 62 rekam medis. Usia, jenis kelamin, keluhan utama, jenis batu saluran kemih, lokasi batu saluran kemih dimasukkan sebagai variabel.* ***Hasil:*** *Perbandingan laki dengan perempuan pasien BSK yaitu 33:29. Sedangkan, pasien BSK terbanyak adalah kelompok usia 46-60 tahun (52%); nyeri pinggang (79%); uric acid atau asam urat (48%); lokasi batu di ginjal (65%).* ***Simpulan:*** *Profil pasien batu saluran kemih di SMF Urologi RSUD Dr. Soetomo Surabaya didapatkan perbandingan antara jenis kelamin laki-laki dengan perempuan yaitu 33:29. kelompok usia terbanyak yaitu 46-60 tahun, keluhan utama terbanyak yaitu nyeri pinggang, jenis batu saluran kemih terbanyak yaitu uric acid atau asam urat, dan lokasi batu terbanyak yaitu berada di ginjal.*

Kata kunci: *batu saluran kemih, kelompok usia, jenis kelamin, keluhan utama, jenis batu saluran kemih, lokasi batu saluran kemih.*

Correspondence: Reza Kurniawan, c/o: Department of Urology, Faculty of Medicine/Universitas Airlangga, Soetomo General Hospital. Jln. Mayjend. Prof. Dr. Moestopo 6-8, Surabaya 60286. Phone: +62 31 5501318; Fax: +62 31 5024971. Mobile phone: 083856275814. Email: rezakurniawan738@gmail.com

INTRODUCTION

Urinary tract stones (UTS) or urolithiasis is a pathologic state which its incidence, etiology, pathogenesis and therapy aspect is usually questioned[1]. Urinary tract stones disease has been known since Babylonian and Ancient Egypt time. One of the evidence that has been found is stone in the bladder of a mummy[2].

Stone formation in urinary tract is suspected because of infection, obstruction, dehydration, urinary tract problem, congenital, metabolic disease, and idiopathic. In Indonesia, the case of UTS is still many, but the complete data about it is not much reported yet[2]. Data shows that the prevalence of Indonesian who suffer kidney stone is 0,6% or 6 per 1000 people[3].

Diet with high purine, oxalate, and calcium make the disease easily happened. This disease is usually found in people who has job that required many sitting position or less physical activity. Less physical activity and working-out can trigger this urolithiasis disease. Therefore, change lifestyle and diet into a healthier one is necessary to prevent urinary tract stone to manifest[2]. It is important to require the data of content/composition in the stone to prevent the possibility of urinary tract stones recurrence. Based on that fact, the author is motivated to know about the profile of UTS patient in Clinical Pathology Laboratory, especially in RSUD Dr. Soetomo Surabaya. The objective of this research is to identify the profile of UTS patient based on age, gender, main complaint, stone type, and the location of the stone. Benefit of this research data can be used as data for the pre-clinic and clinic people in the prevention and treatment of UTS.

OBJECTIVE

The aim of this study is to identify the profile of patients with urinary tract stone at Urology Department of Dr. Soetomo Hospital Surabaya in January 2016-December 2016.

MATERIAL & METHODS

This was a descriptive retrospective research conducted at Urology Department of Dr. Soetomo Hospital Surabaya. The data was obtained from medical records of patients diagnosed with urinary tract stone, with the amount of data collected was 62. While, the amount of data stone type collected was 122. The variables included were age, sex, address, chief complaint, type and location of urinary tract stone. We look at different type of stone: Calcium carbonate, Calcium oxalate, Calcium phosphate, Struvite, and Uric acid, without differentiate whether it is unilateral or bilateral.

RESULTS

This research is consist of 33 male patients and 29 female patients. Sample characteristics were noticed base on age, sex, main complaint, type of urinary tract stone, location of urinary tract stone. Table 1 shows profile of patients with urinary tract stone based on age, gender, main complaint. Table 2 shows profile of urinary tract stone based on stone type and location.

DISCUSSION

Patient Profile

This research is to describe the profile of urinary tract stone patient that is hospitalized in SMF Urology RSUD Dr. Soetomo Surabaya on January 2016-December 2016 period. Variables which are researched are age, gender, and chief complaint. The followings are the description of patients who are diagnosed urinary tract stone.

Table 1. The Distribution of UTS Patient Based on Age, Gender, and Chief Complaint in SMF Urology RSUD Dr. Soetomo Surabaya on January 2016-December 2016 period.

Patient profile	Number (n=62)	Percentage (%)
Diagnosed age (years)		
≤ 15	2	3
16-30	3	5
31-45	9	15
46-60	32	52
61-75	15	24
≥ 76	1	2
Gender		
Male	33	53
Female	29	47
Chief Complaint		
Lumbar pain	49	79
Urinary retention	1	2
Lumbar pain, nausea, vomiting	1	2
Urinary retention and lumbar pain	1	2
Dysuria	5	8
Urinary retention	1	2
Painless	2	3
Nausea and vomiting	1	2
Lumbar pain and dysuria	1	2

Table 2. The Distribution of UTS Patient Based on Stone Type and Location in SMF Urology RSUD Dr. Soetomo Surabaya on January 2016-December 2016 period.

Stone Profile	Number (n=122)	Percentage (%)
Stone Type		
Calcium Carbonate	5	4
Calcium Oxalate	14	11
Calcium Phosphate	14	11
Struvite	30	25
Uric Acid	59	48
Stone Profile	Number (n=62)	Percentage (%)
Stone Location		
Kidney	46	68
Ureter	13	19
Bladder	9	13

The incidence of UTS is usually happened on age 20-50 years old[4]. Based on table 1, it shows that urinary tract patient data which are hospitalized in SMF Urology RSUD Dr. Soetomo Surabaya on January-December 2016 period is dominated by 46-60 years old age group (52%). This data is in line with the previous research. The research in RSUP Sanglah Denpasar on January 2007-December 2007 shows that urinary tract stone patient age is dominated by 46-60 years old age group (39,8%)[5]. Research shows that 41-60 years old group (50%) is dominating the incidence rate in RS Harapan Keluarga Mataram[6].

According to table 1 shows that urinary tract stone patient which are hospitalized in SMF Urology RSUD Dr. Soetomo Surabaya on January 2016-December 2016 period is dominated by male group (53%). This data is parallel with the previous research. Research shows that male group is dominating the incidence rate of urinary tract stone in RSUP Prof. Dr. R. D. Kandou Manado[7]. Another research in RSUP Sanglah Denpasar shows that male group (39,8%) is also dominating the incidence rate of urinary tract stone[5]. Other research is also showing that male group (72,2%) is dominating the incidence rate of urinary tract stone in RS Al-Islam Bandung[8]. Therefore, it can be concluded that gender male is the major group that suffer urinary tract stone because males have testosterone hormone that may cause the oxalate production in liver is increased (calcium oxalate stone predisposition) and females have higher urine citrate concentration (citrate can blocked the formation of calcium oxalate stone)[4].

According to table 1, the result shows that patient with urinary tract stone diagnosis who are hospitalized in SMF Urology RSUD Dr. Soetomo Surabaya on January 2016-December 2016 period is dominated by patient with lumbar pain as chief complaint (79%). This data is in line with the previous research. Based on research shows that lumbar pain (93,9%) is the majority of chief complaint in RS Santa Elisabeth Medan[9].

Stone Profile

This research is giving description about urinary tract stone profile in SMF Urology RSUD Dr. Soetomo Surabaya on January 2016-December 2016 period. Variable that is researched is the type and the location of the stone. The type of stone that is researched are calcium carbonate, calcium oxalate, calcium phosphate, struvite, and uric acid. Other than that, stone location that is researched is kidney, ureter, bladder, kidney and ureter, kidney and bladder.

On table 2, the result of research shows that the urinary tract stone who are hospitalized in SMF Urology RSUD Dr. Soetomo Surabaya on January 2016-December 2016 period is dominated by uric acid (48%). In the second place is struvite (25%). Then, the third place is calcium phosphate (11%) and calcium oxalate (11%). This research is different with the previous one, but the second place and third place is the same. The research in RSUP Sanglah Denpasar shows that the research is dominated by the calcium oxalate (72,3%). In the second place is struvite (67,4%) and in the third place is calcium phosphate (42,5%)[10]. This differences is indicating there is a shift of risk factor of the patient. Risk factor for the formation of uric acid stone is obesity, alcoholics, and high protein diet. Those condition can increase the excretion of uric acid, therefore the pH of urine is becoming low[11]. Meanwhile, the risk factor of calcium oxalate is the patient is the patient that suffer bowels irritation went through bowels surgery and patient that consume many food that is containing oxalate (tea, instant coffee, soft drink beverages, cocoa, berry, citrus lemon, and greens especially spinach) and calcium (milk, cheese, and history of parathyroid tumor)[4]. From those risk factors, found data that uric acid stone is in high prevalence, may be caused by the

increased prevalence of obesity and high-protein diet. Based on data, prevalence of obesity of male adult is increasing (>18 years old) on 2013 as much as 19,7 percent, way higher than 2007 (13,9%) and 2010 (7,8%). Meanwhile on 2013 there is also an increasing prevalence of obesity in adult female (>18 years old) as much as 32,9 percent. It is increased 18,1 percent from 2007 (13,9%) and 17,5 percent from 2010 (15,5%)[3]. In table 2, the result of research from variable stone location shows that urinary tract stone patient who are hospitalized in SMF Urology RSUD Dr. Soetomo Surabaya on January 2016-December 2016 period is dominated by kidney (68%). The result of this research is also in accordance with the previous research. Research shows that majorly the stone is located in kidney (59,6%)[10]. It is also the same with a research that shows mainly stone is located in kidney (36%)[12].

CONCLUSION

On retrospective research about Stone Kidney Patient Profile in SMF Urology RSUD Dr. Soetomo Surabaya on January 2016-December 2016 period is found: the ratio between male and female gender is 33:29, age group is consisted of: 46-60 years old age, 32 patients (52%), 61-75 years old age group, 15 patients (24%) and 31-45 years old age group, 10 patients (16%), and the most of chief complaint is lumbar pain, 49 patients (79%).

From urinary tract stones profile is found: uric acid stones, 59 patients (48%), and struvite stones, 30 patients (25%), calcium oxalate stones, 14 patients (11%) and calcium phosphate stones, 14 patients (11%). Stone location that is found in kidney, 46 patients (68%) and stone location in ureter, 13 patients (19%) and in bladder, 9 patients (13%).

REFERENCES:

1. Knoll, T. Epidemiology, pathogenesis and pathophysiology of urolithiasis. European Urology Supplements. 2010; 9(12), pp. 802-806.
2. Purnomo, B.B. Dasar-Dasar Urologi. 3rd ed. Jakarta: Sagung Seto; 2011.
3. Badan Penelitian dan Pengembangan Kesehatan Kementrian Kesehatan RI. Riset Kesehatan Dasar. Jakarta: Departemen Kesehatan RI; 2013.
4. Albala, D.M, Morey, A.F. Gomella, L.G, and Stein, J.P. Oxford American Handbook of Urology. New York: Oxford University Press, Inc; 2011.
5. Dewi, D.A.P.R. dan Subawa, A.A.N. Profil Analisis Batu Saluran Kencing di Instalasi Laboratorium Klinik RSUP Sanglah. 2007 [cited 2007 Juny 1] Academia.edu. Available at: http;//www.academia.edu/856241/Profil_Analisis_Batu_Saluran_Kencing_di_Instalasi_Laboratorium_Klinik_RSUP_Sanglah_Denpasar.
6. Abdurrosid, L.M.K., Maulana, A., Hapsari, Y. dan Nandana, P.I. Evaluasi Angka Bebas Batu pada Pasien Batu Ginjal yang Dilakukan ESWL Berdasarkan Letak dan Ukuran Batu di Rumah Sakit Harapan Keluarga Mataram Periode 2015-2016. 2017 [cited 2017 Juny 1] Avaliable from: http://jku.unram.ac.id/article/download/140/103.
7. Tondok M.E.B., Monoarfa A., Limpeleh H. *Angka Kejadian Batu Ginjal di RSUP Prof. Dr. R. D. Kandou Manado Periode Januari 2010-Desember 2012*. 2014 [cited 2014 Juny 1] Available from: https:// ejournal. unsrat .ac.id/index.php/clinic /article/view/3722.
8. Buntaram, M.A., et al. Hubungan Angka Kejadian Batu Saluran Kemih pada Pasien Rawat Jalan Rumah Sakit Al-Islam Tahun 2014. 2015 [cited 2015 Juny 1] Available from: http:// karya ilmiah.unisba.ac.id/index.php/dokter/article/download/1502/pdf.
9. Sihaloho, S.M.Y. Karakteristik Penderita Batu Saluran Kemih yang Dirawat Inap di Rumah Sakit Santa Elisabeth Medan Tahun 2015-2016. 2017 [cited 2017 Juny 1] Available from: http://www.repositori.usu.ac.id/bitstream/handle/123456789/131000422.pdf?sequence.
10. Suryanto, F. dan Subawa, A.A. N. Gambaran Hasil Analisis Batu Saluran Kemih di Labora- torium Patologi Klinis di RSUP Sanglah Denpasar Periode November 2013-Oktober 2014. 2017 [cited 2017 Juny 1] Available from:http://www.ojs.unud.ac.id/index.php/eum/article/view/28435.
11. Worcester, E. and Coe, F. Calcium Kidney Stones. New England Journal of Medicine. 2010; 363(10), pp. 954-963.
12. Lina, N. 2008. *Faktor-faktor Risiko Kejadian Batu Saluran Kemih pada Laki-Laki*. 2008 [cited 2008 Juny 1] Available from:http://www.eprints.undip.ac.id /18458/ 1/Nur_Lina.pdf

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