

INTRODUCTION:

The disorder of urolithiasis is very common among people. Majority of population is a victim of this disease. These patients need long duration surgery and some of them may be lost kidney [1]. This disease is extensively found in all type of communities. And not new disease. It is present worldwide. Once during lifetime, stones of the urinary tract are observed to found in almost 10% of people. In Pakistan, the sixth usual situation that needs surgical treatment is Stone. In Indo-Pak subcontinent, the second important region that is reported with calculus disorder [2].

The disorder of calculus is age dependent. There is no obvious information about the occurrence of this disorder. Why a person has urinary stones and another doesn't. there is no certain reason in support of this answer. The occurrence of this disorder of urinary stones is not in even in various part of the country as well as the world. The framework of calculi shows the logic of occurrence of stones. Urinary calculi are clumps of polycrystals. Crystals and organic matter component present in these clumps are different. The urinary stones that are commonly found are uric acid, cysteine, calcium phosphate, calcium oxalate and magnesium ammonium phosphate [3]. There is a variation in the chemical framework of urinary stones relative to the area. Similar researches about urinary stones organized in European and America. There is a remarkable variation between these studies and reported work in Pakistan. For the control of this disorder, it is necessary to assess the framework of urinary calculi and to highlight the stone. Using lithotripsy stones are broken down and then removed by surgery. The possibility of urinary tract stones. So, the possibility increases to 50% after five years [4]. The reason of formation of stones can be highlighted by knowing the chemical framework of urinary calculus.

The lifestyle of the subcontinent is specific. The customs, diet, race and living standard is different. To give precise information about the framework of

stone is the main goal of this study. This information is important to point out the cause of this disorder.

MATERIALS AND METHODS:

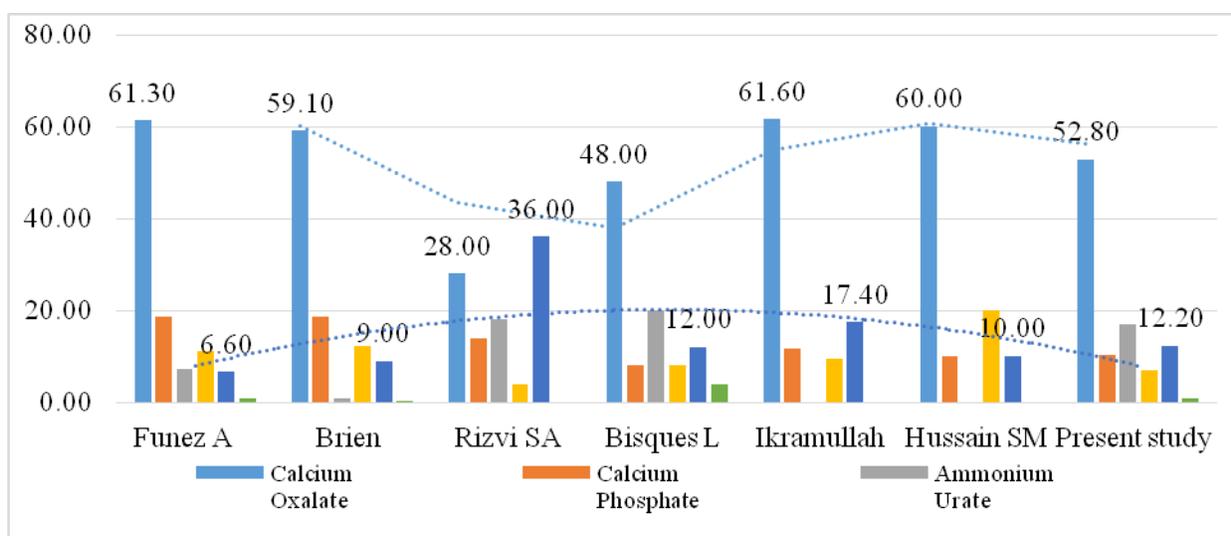
The study was carried out eventually and was irregular. The study was organized in the Department of Surgery and Pathology of Sir Ganga Ram Hospital, Lahore from May 2016 to December 2017. The patients included in this study were 106 in total. These patients were suffering from different disorders of stones. They experienced open stone surgery. To check the presence of calcium, cysteine uric acid, magnesium, ammonium, ammonia, oxalate and phosphate, the Merckognost procedure was used for semi-quantitative chemical assessment. This method can be applied in all the participant of this study. The presence of calcium ions can be estimated through EDTA titration at Ph 12. The titration is carried out in the presence of methyl thymol. When blue colour is changed into green, the presence of calcium ions is confirmed. Molybdenum blue procedure is used for the presence of phosphate. This procedure makes hydrazinium sulphate blue complex in acidic medium at 825nm. Nessler reagent at max 410nm and solo chrome back at ph 10.1 at max 520nm were used to check the presence of ammonium and magnesium respectively. With the help of spectrophotometer Super Aquarius CE 9500, the presence of oxalate, cysteine, ammonium, uric acid, phosphate was determined. A questioner was completed by the patients. This was related to gender, age, place of stone that are pointed out surgically. This data was revised and compares with other studies.

RESULTS:

Total 106 patients were included in this study. 2:41:1 was the male to the female's ratio. The males and females were 75 and 31 respectively. The incidence of lower urinary tract stones was under 10 years in both genders. Whereas the chances of upper urinary tract stone of both genders were 20-30 years. The chemical assessment illustrates the presence of calcium oxalate.

Table – I: Percentage Wise Chemical Composition

Chemical Composition	Calcium Oxalate	Calcium Phosphate	Ammonium Urate	Uric Acid	Struvite	Cysteine
Funez A	61.30	18.50	7.13	11.20	6.60	0.77
Brien	59.10	18.50	0.80	12.30	9.00	0.30
Rizvi SA	28.00	14.00	18.00	4.00	36.00	0.00
Bisques L	48.00	8.00	20.00	8.00	12.00	4.00
Ikramullah	61.60	11.60	0.00	9.40	17.40	0.00
Hussain SM	60.00	10.00	0.00	20.00	10.00	0.00
Present Study	52.80	10.30	16.90	6.90	12.20	0.90

**Table – II:** Age Distribution

Age Group (Years)	Male	Female	Total
1 to 10	9	6	15
11 to 20	18	5	23
21 to 30	8	6	14
31 to 40	6	2	8
41 to 50	8	0	8
51 to 60	6	0	6
61 to 70	0	0	0
Total	79	27	106

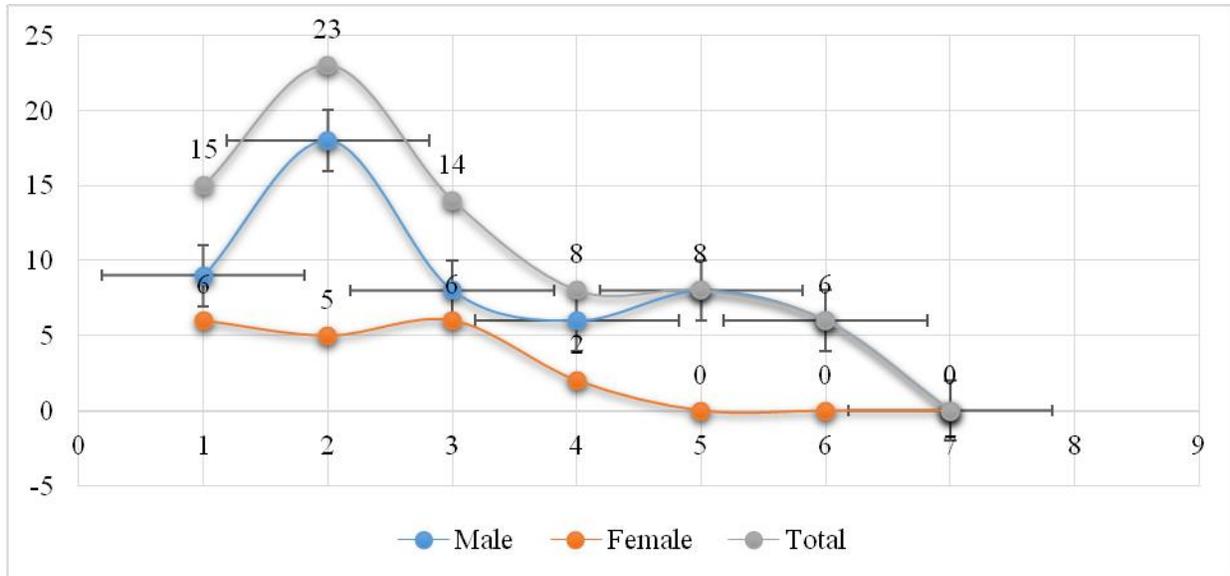
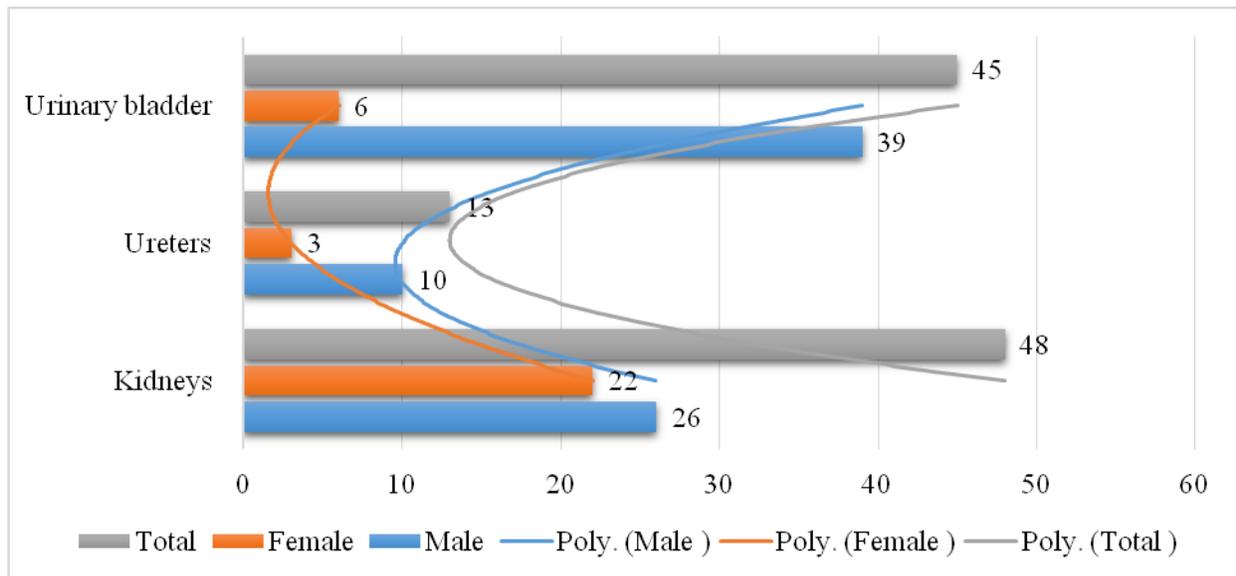


Table – III: Gender Wise Anatomical Site Distribution

Anatomical Site	Male	Female	Total
Kidneys	26	22	48
Ureters	10	3	13
Urinary Bladder	39	6	45
Total	75	31	106



DISCUSSION:

The disorder of urinary stone is an important issue. It is a very old disease. The acuteness of the indications of urinary calculus disorder is evident from the work done on this disease around the world. This disorder can be present in people of any age. This study illustrates that this disorder is present more extensively in males as compared to females [5]. The occurrence of kidney and bladder stones is more as compare to bladder stones. This result is similar to other studies [6]. The treatment of different kinds of urolithiasis can be indicated by assessing the framework of every urinary stone [7]. The knowledge of aetiology and epidemiology can be increased through progressing outcomes of stones assessment of specific patients as well as through information on the distribution of various types of stone disease [8]. In 1776, the calculi were first assessed and reported by Scheele. Winer showed that an assessment of urinary stone and its cause, it is necessary to analyze stone. For the chemical framework of calculi, the winner also designs simple spot test [9]. Diet is also responsible for the presence of various ions. In renal stones, calcium oxalate was common and in vesical stones, urate was more common. As compared to other studies, the frequency of calcium oxalate, uric acid, ammonia urate and the mixed stone was same [10].

Stone of urinary, track is most commonly found. The same reason of the presence of calcium oxalate and ammonium urate is due to high quantity use of vegetable, poor diet and less use of water. A large population is a victim of this disease. It is due to a large number of educations, pollution low standard of living and low consumption of fluid. So, patients should be advised to take regular juices and water.

CONCLUSION:

The study illustrated that urinary stone is a disease which mostly found in males. This disease is not age specific. The group of people, who used less, milk, leafy vegetable and had a low standard of living are much likely to have this disorder. For therapeutic and precautionary improvement, it is important for the physician to have better knowledge of factors leading to urinary stones, the framework of stones and important metabolic estimation. For early diagnosis and treatment, it is important to make the public aware.

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