

Anxiety in Recurrent Urinary Stone Formers

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ABSTRACT

Prevalence of urinary stone is on the rise day by day among different populations and significant rise in recurrence of the morbidity is found in last three decades. Because of symptoms of pain, hematuria and fever, recurrence of urinary stone is associated with many psychological disturbances among which anxiety is very much prevalent and is associated with poor patient compliance towards management and even progress to depression in many patients. **Objective:** Objective of our study was to find out prevalence of anxiety by determining its frequency in patients with recurrent urinary stone, so that early diagnosis can be helpful in institution of early management. **Setting/Place and duration:** Study conducted in Department of Urology and Kidney Transplantation, Allied Hospital, Faisalabad for 4 months from September 2016 to December 2016. **Methodology:** 78 patients were enrolled in study according to inclusion and exclusion criteria and included patients being entertained in indoor and outdoor facility of Department of Urology and Kidney Transplantation, Allied Hospital, Faisalabad for recurrent stone formation. Anxiety was assessed by using Hamilton Anxiety Rating Scale (HAM-A) and results were determined for prevalence of disease and association of morbidity in such patients in terms of variables of age and gender. **Results:** Total 78 patients were enrolled in study from age 15-60 years with mean age as 33.6 years. Among 78, 41 were male patients and 37 were female. Patients were stratified in to three age groups; G-1 (15-30 years), G-2 (31 to 45 years) and G-3 (46-60 years). When anxiety was assessed, 66 out of 78 patients (84.6%) were found to have anxiety while only 12 (15.4%) were without disease with p value less than 0.05 showing significance for presence of anxiety among recurrent stone formers. Among males, 33 patients (80.5%) were with anxiety and among females 33 (89.2%) were found to have the morbidity. Anxiety appearance and its effect assessed with response to gender cross-tabulation and Pearson Chi-square test applied and no statistical response found with gender variable. Severity of disease and its association with gender and age group simultaneously and found that anxiety severity corresponds to different age groups and is mild disease is relatively more prevalent in middle age group persons and moderate to severe symptoms more in young age group patients (p value <0.005) and females are more prone to have anxiety severity as compared to males. **Conclusion:** it is concluded that anxiety is significantly present among patients with recurrent urinary stone formation with females more prone to develop symptoms as compared to males and elderly patients are more predispose to have moderate to severe symptoms. So in such patients, early assessment for presence of anxiety and institution of prompt treatment will be helpful in patient's management.

Keywords: Recurrent urinary stone formers, anxiety.

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INTRODUCTION

Urolithiasis incidence is rising day by day and according to a rough estimate every third person seeking medical advice in Out-door services of Urology belonged to urinary stone disease). In recently conducted studies, it has been documented that incidence and prevalence rates of urolithiasis is skiing high up to value of 10 to 15%¹ and in case for determination of stone burden in recurrence, rate may be as high as 50%² and in another study this rate has been documented as 70 % of the patients within 2 decades after the first attack of renal colic and that of 50% from 4 to 5 years after the first attack^{1,2}. Changing dietary habits, life style,

incomplete follow up and presence of metabolic disorders are among the main contributors for recurrence of urinary stone. Conventionally patients with history of at least two episodes of disease within a 3-year period are labeled as recurrent stone formers. Urolithiasis is associated with many troublesome symptoms which affects daily routine of patients and significantly affects quality of life of patients. Among these bothersome symptoms, include colic pain, hematuria, and fever which significantly affects quality of life of patients and many times predispose to development of psychological disorders ranging from anxiety to depression. So, a study looking for prevalence of

anxiety in recurrent stone formers can be helpful in management of such patients and early diagnosis and prompt treatment institution can be helpful in improving quality of life of such patients.

METHODOLOGY

Study design: Cross sectional study

Setting: Department of Urology and Kidney Transplantation, Allied Hospital, Faisalabad.

Duration: The study was conducted for 4 months from September 2016 to December 2016

Sample size: 78 patients were enrolled in the study

Sampling technique: Non probable consecutive.

Inclusion criteria: Patients of either gender within age group of 15-60 years with recurrent urinary stones including renal, ureteric and bladder stones, seeking management in in-door and out-door services of Department of Urology and Kidney Transplantation, Allied Hospital, Faisalabad having two episodes of disease in 3 years duration were included in the study .

Exclusion criteria: Patients with improper or incomplete management for first episode of disease, patients with history of being diagnosed as mental retarded, history of any past psychological illness, history of intake of medicine for psychological reasons or history of anxiety prior to first episode of disease were excluded from the study.

Procedure: Patients enrolled were assessed for anxiety using Hamilton Anxiety Rating Scale (HAM-A) with a total score range of 0–56, in which <17 indicates mild severity, 18–24 mild to moderate severity and 25–30 moderate to severe anxiety.

Hamilton Anxiety Rating Scale (HAM-A)

0 = Not present, 1 =Mild, 2= Moderate, 3 =Severe, 4= Very severe

- | | |
|--|-----------|
| 1. Anxious mood | 0 1 2 3 4 |
| Worries, anticipation of the worst, fearful anticipation, irritability | |
| 2. Tension | 0 1 2 3 4 |
| Feelings of tension, fatigability, startle response, moved to tears easily, trembling, feelings of restlessness, inability to relax. | |
| 3. Fears | 0 1 2 3 4 |
| Of dark, of strangers, of being left alone, of animals, of traffic, of crowds. | |
| 4. Insomnia | 0 1 2 3 4 |
| Difficulty in falling asleep, broken sleep, unsatisfying sleep and fatigue on waking, dreams, nightmares, night terrors. | |
| 5. Intellectual | 0 1 2 3 4 |
| Difficulty in concentration, poor memory. | |
| 6. Depressed mood | 0 1 2 3 4 |

Loss of interest, lack of pleasure in hobbies, depression, early waking, diurnal swing.

7. Somatic (muscular) 0 1 2 3 4

Pains and aches, twitching, stiffness, myoclonic jerks, grinding of teeth, unsteady voice, increased muscular tone.

8. Somatic (sensory) 0 1 2 3 4

Tinnitus, blurring of vision, hot and cold flushes, feelings of weakness, pricking sensation.

9. Cardiovascular symptoms 0 1 2 3 4

Tachycardia, palpitations, pain in chest, throbbing of vessels, fainting feelings, missing beat.

10. Respiratory symptoms 0 1 2 3 4

Pressure or constriction in chest, choking feelings, sighing, dyspnea.

11. Gastrointestinal symptoms 0 1 2 3 4

Difficulty in swallowing, wind abdominal pain, burning sensations, abdominal fullness, nausea, vomiting, borborygmi, looseness of bowels, loss of weight, constipation.

12. Genitourinary symptoms 0 1 2 3 4

Frequency of micturition, urgency of micturition, amenorrhea, menorrhagia, development of frigidity, premature ejaculation, loss of libido, impotence.

13. Autonomic symptoms 0 1 2 3 4

Dry mouth, flushing, pallor, tendency to sweat, giddiness, tension headache, raising of hair.

14. Behavior at interview 0 1 2 3 4

Fidgeting, restlessness or pacing, tremor of hands, furrowed brow, strained face, sighing or rapid respiration, facial pallor, swallowing, etc. Patients related variables were stratified in terms of gender (Male and Female) and age groups were stratified in groups.

Statistical tool: Obtained date All the data was analyzed by using SPSS V-21. Mean and was calculated for all quantitative variables like age. Frequency and percentage was calculated for qualitative variables of anxiety. Post stratification Pearson chi-square test was applied to look for statistical analysis for age groups and gender. *p* value less than 0.05 will be taken as significant.

RESULTS

Total 78 patients were enrolled in study from age 15-60 years with mean age as 33.6 years. Among 78, 41 were male patients and 37 were female. Patients were stratified in to three age groups; G-1 (15-30 years), G-2 (31 to 45 years) and G-3 (46-60 years). Patient distribution with gender and age groups as shown in Table No.1.

When anxiety was assessed, 66 out of 78 patients (84.6%) were found to have anxiety while only 12 (15.4%) were without disease with *p* value less than 0.05 showing significance for presence of anxiety

among recurrent stone formers. Among males, 33 patients (80.5%) were with anxiety and among females 33 (89.2%) were found to have the morbidity. (Table No.2) Severity of disease also determined with gender and age group distribution. (Table No.3) Cross tabulation done for gender distribution in different age groups (Table No.4). Anxiety appearance and its effect assessed with response to gender cross-tabulation and Pearson Chi-square test applied and no statistical response found with gender variable (Table No.5). Severity of disease and its association with gender and age group simultaneously and found that anxiety severity corresponds to different age groups and is mild disease is relatively more prevalent in middle age

group persons and moderate to severe symptoms more in young age group patients (p value <0.005) and females are more prone to have anxiety severity as compared to males (Table No.6).

Table 1: Patient distribution with gender in age groups

| Age Group | Male | Female | Total |
|-------------------|------|--------|-------|
| G-1 (15-30 Years) | 22 | 14 | 36 |
| G-2 (31-45 Years) | 13 | 20 | 33 |
| G-3 (46-60 Years) | 6 | 3 | 9 |
| Total | 41 | 37 | 78 |

Table 2: Presence of anxiety with gender and age group distribution

| Age Groups | Male | | Female | | Total Patients with Anxiety | Total Patients without Anxiety |
|-------------------|--------------|-----------------|--------------|-----------------|-----------------------------|--------------------------------|
| | With Anxiety | Without Anxiety | With Anxiety | Without Anxiety | | |
| G-1 (15-30 Years) | 18 | 4 | 13 | 1 | 31 | 5 |
| G-2 (31-45 Years) | 11 | 2 | 18 | 2 | 29 | 4 |
| G-3 (46-60 Years) | 4 | 2 | 2 | 1 | 6 | 3 |
| Total | 33 | 8 | 33 | 4 | 66 | 12 |

Table 3: Severity of anxiety with gender and age group distribution

| Severity of Disease | Male | | | Female | | | Total |
|---------------------|------|-----|-----|--------|-----|-----|-------|
| | G-1 | G-2 | G-3 | G-1 | G-2 | G-3 | |
| Mild | 3 | 5 | 2 | 2 | 13 | 0 | 25 |
| Mild to Moderate | 4 | 4 | 1 | 1 | 2 | 0 | 12 |
| Moderate to Severe | 11 | 2 | 1 | 10 | 3 | 2 | 29 |
| Total | 18 | 11 | 4 | 13 | 18 | 2 | 66 |

Table 4: Age Group and Gender Cross-tabulation

| | | | Gender | | Total |
|-----------|--------------------|--------------------|--------|--------|--------|
| | | | Male | Female | |
| Age Group | G-1 (15-30 Years) | Count | 22 | 14 | 36 |
| | | % within Age Group | 61.1% | 38.9% | 100.0% |
| | | % within Gender | 53.7% | 37.8% | 46.2% |
| | G-2 (31-45 Years) | Count | 13 | 20 | 33 |
| | | % within Age Group | 39.4% | 60.6% | 100.0% |
| | | % within Gender | 31.7% | 54.1% | 42.3% |
| | G-3 (46-60 Years) | Count | 6 | 3 | 9 |
| | | % within Age Group | 66.7% | 33.3% | 100.0% |
| | | % within Gender | 14.6% | 8.1% | 11.5% |
| Total | Count | 41 | 37 | 78 | |
| | % within Age Group | 52.6% | 47.4% | 100.0% | |
| | % within Gender | 100.0% | 100.0% | 100.0% | |

Table 5: Group ‘Response’ gender cross-tabulation

| Gender | | | Response | | Total | |
|--------|-------|-------------------|-------------------|-----------------|--------|--------|
| | | | With Anxiety | Without Anxiety | | |
| Male | group | G-1 (15-30 Years) | Count | 18 | 4 | 22 |
| | | | % within group | 81.8% | 18.2% | 100.0% |
| | | | % within response | 54.5% | 50.0% | 53.7% |
| | group | G-2 (31-45 Years) | Count | 11 | 2 | 13 |
| | | | % within group | 84.6% | 15.4% | 100.0% |
| | | | % within response | 33.3% | 25.0% | 31.7% |
| | group | G-3 (46-60 Years) | Count | 4 | 2 | 6 |
| | | | % within group | 66.7% | 33.3% | 100.0% |
| | | | % within response | 12.1% | 25.0% | 14.6% |
| | Total | | Count | 33 | 8 | 41 |
| | | | % within group | 80.5% | 19.5% | 100.0% |
| | | | % within response | 100.0% | 100.0% | 100.0% |
| Female | group | G-1 (15-30 Years) | Count | 13 | 1 | 14 |
| | | | % within group | 92.9% | 7.1% | 100.0% |
| | | | % within response | 39.4% | 25.0% | 37.8% |
| | group | G-2 (31-45 Years) | Count | 18 | 2 | 20 |
| | | | % within group | 90.0% | 10.0% | 100.0% |
| | | | % within response | 54.5% | 50.0% | 54.1% |
| | group | G-3 (46-60 Years) | Count | 2 | 1 | 3 |
| | | | % within group | 66.7% | 33.3% | 100.0% |
| | | | % within response | 6.1% | 25.0% | 8.1% |
| | Total | | Count | 33 | 4 | 37 |
| | | | % within group | 89.2% | 10.8% | 100.0% |
| | | | % within response | 100.0% | 100.0% | 100.0% |
| Total | group | G-1 (15-30 Years) | Count | 31 | 5 | 36 |
| | | | % within group | 86.1% | 13.9% | 100.0% |
| | | | % within response | 47.0% | 41.7% | 46.2% |
| | group | G-2 (31-45 Years) | Count | 29 | 4 | 33 |
| | | | % within group | 87.9% | 12.1% | 100.0% |
| | | | % within response | 43.9% | 33.3% | 42.3% |
| | group | G-3 (46-60 Years) | Count | 6 | 3 | 9 |
| | | | % within group | 66.7% | 33.3% | 100.0% |
| | | | % within response | 9.1% | 25.0% | 11.5% |
| | Total | | Count | 66 | 12 | 78 |
| | | | % within group | 84.6% | 15.4% | 100.0% |
| | | | % within response | 100.0% | 100.0% | 100.0% |

Chi-Square Tests

| Gender | | Value | df | p-value |
|--------|--------------------|--------------------|----|---------|
| Male | Pearson Chi-Square | .896 ^b | 2 | .639 |
| Female | Pearson Chi-Square | 1.787 ^c | 2 | .409 |
| Total | Pearson Chi-Square | 2.559 ^a | 2 | .278 |

Table 6: Severity of Disease 'Groups'* Gender Cross-tabulation

| Gender | | | Groups | | | Total |
|------------------------------|---------------------|------------------------------|------------|--------|--------|--------|
| | | | G-1 | G-2 | G-3 | |
| Male | Severity of Disease | Mild | Count 3 | 5 | 2 | 10 |
| | | % within Severity of Disease | 30.0% | 50.0% | 20.0% | 100.0% |
| | | % within Groups | 16.7% | 45.5% | 50.0% | 30.3% |
| | Mild to Moderate | Count | 4 | 4 | 1 | 9 |
| | | % within Severity of Disease | 44.4% | 44.4% | 11.1% | 100.0% |
| | | % within Groups | 22.2% | 36.4% | 25.0% | 27.3% |
| | Moderate to Severe | Count | 11 | 2 | 1 | 14 |
| | | % within Severity of Disease | 78.6% | 14.3% | 7.1% | 100.0% |
| | | % within Groups | 61.1% | 18.2% | 25.0% | 42.4% |
| | Total | Count | 18 | 11 | 4 | 33 |
| % within Severity of Disease | | 54.5% | 33.3% | 12.1% | 100.0% | |
| % within Groups | | 100.0% | 100.0% | 100.0% | 100.0% | |
| Female | Severity of Disease | Mild | Count 2 | 13 | 0 | 15 |
| | | % within Severity of Disease | 13.3% | 86.7% | 0.0% | 100.0% |
| | | % within Groups | 15.4% | 72.2% | 0.0% | 45.5% |
| | Mild to Moderate | Count | 1 | 2 | 0 | 3 |
| | | % within Severity of Disease | 33.3% | 66.7% | 0.0% | 100.0% |
| | | % within Groups | 7.7% | 11.1% | 0.0% | 9.1% |
| | Moderate to Severe | Count | 10 | 3 | 2 | 15 |
| | | % within Severity of Disease | 66.7% | 20.0% | 13.3% | 100.0% |
| | | % within Groups | 76.9% | 16.7% | 100.0% | 45.5% |
| | Total | Count | 13 | 18 | 2 | 33 |
| % within Severity of Disease | | 39.4% | 54.5% | 6.1% | 100.0% | |
| % within Groups | | 100.0% | 100.0% | 100.0% | 100.0% | |
| Total | Severity of Disease | Mild | Count 5 | 18 | 2 | 25 |
| | | % within Severity of Disease | 20.0% | 72.0% | 8.0% | 100.0% |
| | | % within Groups | 16.1% | 62.1% | 33.3% | 37.9% |
| | Mild to Moderate | Count | 5 | 6 | 1 | 12 |
| | | % within Severity of Disease | 41.7% | 50.0% | 8.3% | 100.0% |
| | | % within Groups | 16.1% | 20.7% | 16.7% | 18.2% |
| | Moderate to Severe | Count | 21 | 5 | 3 | 29 |
| | | % within Severity of Disease | 72.4% | 17.2% | 10.3% | 100.0% |
| | | % within Groups | 67.7% | 17.2% | 50.0% | 43.9% |
| | Total | Count | 31 | 29 | 6 | 66 |
| % within Severity of Disease | | 47.0% | 43.9% | 9.1% | 100.0% | |
| % within Groups | | 100.0% | 100.0% | 100.0% | 100.0% | |

Chi-Square Tests

| Gender | | Value | df | p-value |
|--------|--------------------|---------------------|----|---------|
| Male | Pearson Chi-Square | 6.251 ^b | 4 | .181 |
| Female | Pearson Chi-Square | 14.046 ^c | 4 | .007 |
| Total | Pearson Chi-Square | 17.316 ^a | 4 | .002 |

DISCUSSION

Prevalence of recurrent urolithiasis is increasing and psychological disorders among such patients is on up-rise possibly because of troublesome symptoms³, repeated hospital elective and

emergency admissions, prolonged use of medication, repeat episodes of surgery, physical work limitations and economic issues^{4,5}. Currently data is lacking as no known authentic work has been done in our country. Worldwide many projects have

been done to find out presence of anxiety and its associated factors. According to a study, 59 % of the sample subjects were found to be having anxiety and depression in recurrent stone disease⁶. This study also proved that anxiety improves symptomatically after treatment of recurrent urolithiasis⁷. Work also been done to find out prevalence of anxiety in different groups of population⁸. When association was determined in terms of gender, it was found that women are more prone to develop anxiety and depressive disorders with a proportion of 2:1⁹. However, no appropriate data is available regarding age and presence of anxiety in recurrent stone formers.¹⁰

CONCLUSION






Based on study it is concluded that anxiety is significantly present among patients with recurrent urinary stone formation with females more prone to develop symptoms as compared to males and elderly patients are more predispose to have moderate to severe symptoms. So in such patients, early assessment for presence of anxiety and institution of prompt treatment will be helpful in patient's management.

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