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Consequence Of Silent Ureteric Calculus Resulting In Nephrectomy Of Year - Study Of Five Cases

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Abstract: - *Ashmari* (Renal Stone) is a disease described in *Ayurveda* with symptoms, types, pathophysiology, palliative treatment and surgery. *Ashm* the meaning is like a stone and *Ari* means enemy. It acts like enemy for body. It resembles with urolithiasis (renal stones).

Urolithiasis is a global pathology with increasing prevalence rate and common across the world, with a prevalence of about 12% worldwide. It suffers 1 to out 10 people of world population. Their prevalence in India also reflects worldwide prevalence and stands at approximately 12% and is relatively more common in the northern part of India having prevalence is 15%. The 10-to 75% lifetime recurrence rate of urolithiasis causes a public health emergency in impacted areas. Minerals and salt combine to form kidney stones. The location, size, patient desire, and institutional capacity all play a role in the surgical management of kidney and ureteral stones.

In this article discussing five cases in last two years visited to OPD and IPD with severe abdominal pain and may or may not having ultra-sonography and any other investigation.

Nature of human being is very predictable and never think of regular checkup or visiting doctor for mild complaints. This lead to sacrificing kidney.

Keywords: - *Ashmari*, Urolithiasis, Gross hydronephrosis, nephrectomy, pelvi-ureteric junction obstruction.

Introduction: -

Nephrolithiasis and urolithiasis, two prevalent urinary diseases, are examples of renal stone disease. In Asia, the prevalence rate is 1-5 percent [1], but at our institute, it is 2%. Nephrolithiasis, or kidney stone disease, is a frequent issue in primary care. Based on the size and position of the stones as well as the existence of symptoms, 10 to 20 percent of kidney stones need to be surgically removed.

Nature of stones are same as that of renal stones [2]. Hydronephrosis means dilatation of the pelvis and calyces of the kidney. It may be congenital, secondary to a muscular incoordination resulting in a functional obstruction, or it may be due to a mechanical obstruction from a stone, a benign stricture or a tumour [3]. Long-term renal stones, which can result in hydronephrosis and non-functioning kidneys, are among the most significant causes in the development of hydronephrotic kidneys, in addition to blockages of the ureteropelvic junction (UPJ) [4].

An obstructed system requires drainage or correction of the underlying pathology, as the increased pressure in the calyces results in a deterioration in renal function, which eventually becomes irreversible [5]. The causes of renal calculi are high salt intake in diet, red meat, gout, excessive intake of medicine like calcium, vitamin D, dehydration, hot, humid climate. Who take less water intake mostly those suffer kidney stone. The type of renal stone are calcium oxalate, struvite, Uric acid and Cystines. Mostly calcium oxalate stone occurs in 80% of population. Other cases found of 20 % renal stone type.

Ashamari Hetu: - There is no specific extrinsic factor claimed for the clinical entity of *Ashmari*. First, it must be noted that Apana Vata, which is located in the pelvic area, needs to be operating regularly in order for urine to be evacuated; any impairment in this regard, such as Pratiloma - Gati, causes a variety of Mutravaha Srotas, including Ashmari, Prameha, and Mutraghata[6]. The Kapha of a man, who neglects to cleanse (Sams' odhana) the internal channels of his organism, or is in the habit of ta king unwholesome food, enraged and aggravated by its own exciting causes, is carried into the urinary bladder. This is where it gets filled with urine and leads to the creation of stones or gravel inside it.

Ashmari is one among the disease come under *Asthomahagad* i: e difficult to cure. *Ashmari* is *vyadhi* of *Mutravaha Strotas*. As *Basti* come under *Trimarma* (three fold of Life) so *Acharya Sushruta* described *Ashmari* as *darun* (fatal) disease [7, 8].

Hydronephrosis can lead to kidney infections, and in some cases, complete kidney function loss or death. Bilateral obstruction or obstruction in a solitary kidney is thus of greater urgency, irreversible damage is already occurring to the kidney. Idiopathic pelvi-ureteric obstruction- may be asymptomatic, can present as intermittent loin pain often exacerbated by a fluid load. [9]

Case series:

In the present case series moderate to gross hydronephrosis and proximal hydroureter with significant thinning of renal parenchyma. Kidney shows decreased enhancement with no prompt excretion of contrast on delayed phase. Ureteric calculus obstruction may result in hydroureter, hydronephrosis and progressive renal damage leading to irreversible renal function. The present case series provides valuable information regarding the gross hydronephrosis in ureteric calculus and its pressure effect on kidney resulting in functional destruction of kidney.

1) A 46 yrs/M. Having main Complaints and Duration: - Pain in abdomen – since ten years (on-off) increased since 4 months, heaviness in right lumbar region.

H/O – Right ureteric calculus – 10 yrs back

Past History: - No any surgical history

K/C/O- HTN (since 15 days)

M/H/O- Tab Telma 40 mg 1-OD

Family history: - No any F/H.

Occupation: - Auto rickshaw driver (since 25 yrs)

Addiction: - Tobacco chewing (1 pocket 25grams/day)

Alcohol consumption (Occasionally)

Physical Examination- GC – fair, P- 76/min, BP-160/100mmhg,T – Afebrile**,** RS – AEBE clear, CVS - S1S2 N**,** CNS – Conscious and well oriented

General Examination - Local Examination: - Tenderness at Right lumber region, Right loin to groin pain present, right renal punch test is positive

Investigation- Hb-14.9, WBC- 8.86k, Plt ct – 284k, BUL-23.1, Sr. Creat -1.09,

USG (Abd &pelvis)- Right sided gross hydronephrosis with hydroureter with mild loss of CMD and mild cortical thinning, likely due to chronic obstructive etiology.

CT urography - Right ureteric calculus approximately measures 11.5 x12.3 x 20 mm (HU: + 1209) at iliac crossing resulting in moderate to gross hydronephrosis and proximal hydroureter with significant thinning of renal parenchyma Right kidney shows decreased enhancement with no prompt excretion of contrast on delayed phase.

DTPA- Hydronephrotic right kidney with poor renal parenchymal function.

Parameter	Right	Left	Total
Split Function (%)	5.8	94.2	100
GFR (ml/min)	2.9	48.1	51.1

2) A 33 yrs/F. C/O - Pain in abdomen (since 10 days),

Burning micturition (since 1 year),

H/O - Pain in abdomen (1 year back..)

Sx/H- Hemorrhoidectomy (12 years back),

LSCS- i) 8 yrs back, ii) 6 yrs back, TL - 6 yrs back

Occupation- Housewife.

Physical Examination GC – fair, P- 72/min, BP-130/90mmhg, T – Afebrile RS – AEBE clear, CVS - S1S2 N CNS – Conscious and well oriented

General Examination - Local Examination: - Tenderness at Right lumber region, Right loin to groin pain absent, right renal punch test is positive Investigation- Hb-14.8,

WBC- 8.55k, Plt ct – 279k, BUL-23.2, Sr Creat - 0.7, USG (Abd &pelvis)- Right sided severe hydronephrosis with thinning of cortex, due to 23mm calculus at PUJ

DTPA- Hydronephrotic right kidney with poor renal parenchymal function.

Parameter	Right	Left	Total
Split Function (%)	4.05	95.95	100
GFR (ml/min)	2.4	56.97	56.97

3) A 60 yrs/M. C/O - fullness of abdomen, vomiting, fever (on-off) since 2-3 days.

No any surgical history, no any major medical illness.

Physical Examination GC – fair, P- 104/min, BP- 120/80 mmHg, T – Afebrile RS – AEBE clear, CVS - S1S2 N CNS – Conscious and well oriented

General Examination - Local Examination:- P/A- Peripherally distended, non-tender

Investigations-Hb- 14.7, WBC- 12.31×10^3, Plt ct- 344×10^3 , BUL - 42, Sr.creat - 1.24, USG(Abd+ pelvis)- Right gross HN with thinning of cortex secondary to right renal pelvic calculus 25mm, moving echos in grossly

dilated right pelvicalyceal system.CT urography- Right sided gross HN relatively contracted renal pelvis secondary obstructing upper ureteric calculus.P/O chronic pyelonephrosis.

4) A 31 yrs/F. C/O - Pain in abdomen , since 1 month (on-off),

Sx/H- exploratory laparotomy (at the age of 12 yrs), no any major medical illness.

Physical Examination- GC – fair, P- 78/min, BP- 120/80 mmHg, T – Afebrile**,** RS – AEBE clear, CVS - S1S2 N**,** CNS – Conscious and well oriented

General Examination - Local Examination:- P/A- Tenderness at left lumbar region, post op scar mark at lower midline.

Investigations- Hb- 12.1, WBC- 8.4×10^3, Plt ct- 526×10^3 , BUL- 15.6 Sr.creat- 1.18, IVP- Left kidney appear bulky show mild uptake of contrast . However there is no concentration and excretion by left kidney.

CT (Abd+Pelvis)- Left gross HN 13×15 mm calculi in left renal pelvis.

DTPA-

Parameter	Right	Left	Total
Split Function (%)	97.7%,	2.3%	100

Enlarged poorly functioning, HN, obstructed left kidney. Normal function right kidney.

5) A 41 yrs/F. C/O - Urine incontinence, mild pain in abdomen, since 1 year (on-off),

H/O - vomiting.

P- 88/min, BP- 130/70 mmHg,

Sx/H- Tubal ligation (in 2010),

K/C/O - HTN (since 3 months), under regular Tx.

Physical Examination- GC – fair, 88/min, BP- 130/70 mmHg, T – Afebrile**,** RS – AEBE clear, CVS - S1S2 N**,** CNS – Conscious and well oriented

General Examination - Local Examination:- P/A- Tenderness at left lumbar region ,

Investigations- Hb- 10.7, WBC- 9.3×10^3, Plt ct- 340×10^3 , BUL- 32.5 Sr.creat- 0.93, USG(And+pelvis) - Left kidney appear small in size and show gross hydronephrosis with thinning of parenchyma , ureter is not dilated, ureter is bulky in size and shape.

DTPA-

Parameter	Right	Left	Total
Split Function (%)	95.1%	4.9%	100

Poorly functioning left kidney. Normal function right kidney.

Treatment and management: - Nephrectomy was done.

Discussion: - Above case study has series of cases which consists of 2 males and 3 females, out of which 2 patients had ureteric calculus whereas 2 patients were having renal calculus. This in total leads to gross hydronephrosis and further lands up into thinning of renal parenchyma of same side which ultimately causes poor kidney function. All the patients taken for the study had less than 5% of total loss in renal function. Neglected renal stones remain a major cause of morbidity in developing countries [10]. Out of 5 patients, 2 patients are having comorbidity condition like HTN. Consumption of salty water was a common history in few patients. *Diwaswap, Adhyashana,* recurrent UTI were markedly noticed in them. *Chardi, Jwara, Udarshool* were their primary complaints. Nephrectomy should be considered if there is permanent severe loss of ipsilateral renal function (less than 10% of total renal function) or there is development of unmanageable complication in hydronephrotic kidney, e.g. severe recalcitrant infection (i.e. pyonephrosis), or trauma to hydronephrotic kidney [11].

Conclusion: - Patient with complaints of burning micturition, pain in abdomen needs early diagnosis and required investigations are to be done within time because it makes the prognosis better. Chronic kidney disease can result from long-term calculus disease, leading to decreased kidney function. It also allows healthcare providers to have information about preventative strategies to teach patients who have had kidney stones before, or those at risk of developing them. Early diagnosis and management are crucial in order to prevent nephrectomy in cases of severe hydronephrosis.

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