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UROLITHIASIS UNVEILED: A COMPREHENSIVE CASE STUDY OF A GIANT VESICAL CALCULUS

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ABSTRACT

Vesical calculus means Stones may come to the bladder through the ureter and enlarge there. Otherwise stones may form in the bladder secondary to stasis and infection. Stone which develops in sterile urine. They develop in the absence of bladder pathology. Stone develops in the presence of infection and stasis due to obstruction to the urinary flow. The present case study was a case of large Vesical calculus in male patient aged 65 years worker by occupation. With increased frequency of micturition since six months, x-ray KUB suggestive of large Vesical calculus which needed surgical intervention. So, Suprapubic cystotomy is Mainly indicated to remove vesical calculi. And in post operative state kidney function test reverse to normal.

INTRODUCTION

Vesical calculus means Stones may come to the bladder through the ureter and enlarge there. Otherwise stones may form in the bladder secondary to stasis and infection. No age is exempt from this disease. Males are more affected than females. Commonest symptom is increased frequency of micturition. The cause is that in standing posture the stone comes in contact with the trigone and initiates desire to micturate. During night the stone falls off the trigon and frequent desire to micturate goes off. Presence of stone in the bladder give rise to pain in the suprapubic region after micturition. This pain is often referred to the tip of the penis or labia majora and becomes aggravated by running and jolting. Haematuria at the end of micturition is also common symptom caused by abrasion of the vascular trigone and gets worse on exercise. Sudden interruption of the flow

due to blockage of the urethral meatus with the stone and subsequent continuation by change of posture is also not uncommon.

Aetiology

Primary: Stone which develops in sterile urine. They develop in the absence of bladder pathology. These also include renal stones which have migrated to the bladder.

Secondary: Stone develops in the presence of infection and stasis due to obstruction to the urinary flow. They develop secondary to bladder pathology.

Four types of calculus: a) Oxalate stone: size Moderate, surface uneven, mulberry stone is dark brown or black because of incorporation of blood pigmented. B) Uric acid stone: Round to oval, smooth, pale yellow, not opaque opaque to X- rays. They are primary stones. C) Cystine: Radio-opaque due to high sulphur content. D) Triple phosphate: These stones consist of ammonium, magnesium and calcium Phosphates. They occur in urine infected with urea-splitting organisms. Sometimes, they grow rapidly. The nucleus of the stone can be made up of bacteria, desquamated epithelium or a foreign body. Dirty white in colour. Acute retention of urine due to the calculus obstructing the internal meatus. Suprapubic cystolithotomy can be done when the stone is too big, too hard to crush or too soft. Transitional cell Ca-90%, Squamous cell Ca- 5-10%, Adenocarcinoma 2%.In this case study- Diagnosis of Large Vesical calculus of 8.1 cm x 6 cm impacted in urinary bladder.

Aim: Study of the Surgical Management in Large Vesical Calculus.

Objectives: To Study of the Surgical Management in Large Vesical Calculus.

MATERIAL AND METHOD

Name-xyz Age-65yr Sex-Male Weight-52 kg.

Occupation-Worker.

Main Complaints and Duration: Frequent Micturition since 6 months. Pain at supra pubic region during micturition since 6 Months on and off, Burning micturition from 10 days, Nausea from 10 days.

Past History: No any Surgical History Medical History, known case of HTN since 10 years. On Treatment Tab. Amlodipine 5mg 1 OD for last 10 years.

Family History: No any Family History.

Physical Examination: GC-fare and afebrile Pulse-72/min BP-130/80 mm of Hg. CVS- S1-S2 Normal CNS- conscious Oriented RS AEBE clear and Normal. P/A soft Bowel – Passed Micturition-Clear.

General Examination: No pallor, No Icterus, No regional Lymphadenopathy Local Examination On examination Suprapubic tenderness seen.

Investigation

Hb- 11.9gm/dl, WBC 13000/mm, D/C N 70%, L 26%, E 2%, M 2%, 80%, Urine Pus cell 4 to 6 sugar, BUL 27 mg/dl, sr. creatinine 1.0mg/dl., ECG, chest x-ray-normal HIV Negative HbsAg-Negative USG- USG reveals- Impacted Large Vesical Calculus of size 8.1 cm to 6 cm X-Ray KUB- Treatment and Management- Conservative – Conservative treatment started with Inj. Magnex forte 1.5gm iv BD, Inj. Amikacin 500 mg iv BD, inj. Pan 40 mg iv OD and analgesic started and posted for Open Cystolithotomy. Surgical procedure The term ‘cystotomy’ means opening the bladder and to close Is applied when the bladder opening is not Closed, but used for drainage.

Indications

A) Suprapubic cystotomy is Mainly indicated to remove vesical calculi.

B) Suprapubic cystostomy is indicated to relieve the bladder of acute retention due to enlarged prostate, impassable stricture or extravasation of urine.

Suprapubic cystolithotomy

Anaesthesia Spinal Anaesthesia, Position- Supine Position under all aseptic precautions, Painting draping done.

Patient posted for Open suprapubic cystolithotomy.

Operative Procedure – Urinary bladder filled With Normal saline 300ml through Foley’s Catheter for distend-the bladder. Distension of the bladder ware simply lift the peritoneum from the lower part of the anterior abdominal wall and hence an extra- peritoneal approach to the bladder facilitated. After distending the bladder, the catheter clipped. Transverse Incision taken about 7-8 cm in length at suprapubic region. Dissection should be Skin Superficial fascia Deep fascia-Anterior rectus sheath- Rectus abdominis muscle split Peritoneum lifted

upward, Anterior bladder wall seen stay suture taken on anterior Bladder wall at both side from midline then 8.1 cm x 6 cm large vesical calculus removed with the help of index finger. Haemostasis thehieved. Bladder wall repair in 2 layar. Corrogated drain kept in retropubic space of Retzius. Drain fixed with marsilk 1. 0.Layerwise closure done. Skin closure Qunewith ethilon 2-0. Postoperatively, the catheter is joined with a bag for close drainage of urine to prevent infection of the urinary tract. The drain is removed from the retropubic space after 3 days.

Follow Up

Post operative day 1st Serosenguinus soakage about 3-4ml. Reduction of corrugated drain seen and drain removed on 3rd day. Intravenous antibiotics given inj. Magnex forte 1.5 gm iv BD in 100 ml NS gradually WBC in normal range, fever decreased.

DISCUSSION

In the bladder calculus, Ultrasound lithotripsy-very safe, but only for small stones. Laser lithotripsy (Holmium laser) can break most large stones. Percutaneous suprapubic litholapaxy-using needle, guidance and metal dilators. Litholapaxy: By introducing a cystoscopic lithotrite, stone is grasped firmly and broken. Small fragments of stone are evacuated by using evacuator. Contraindications for litholapaxy- a) Urethra: Obstruction such as stricture, enlarged prostate. B) Bladder Cystitis, contracted bladder, carcinoma. Calculus size is too big so require Surgical intervention i.e. Open Suprapubic cystolithotomy.

CONCLUSION

In this study concludes that largest Vesical calculus of size 8.1 cm x 6 cm seen USG as well as in X- ray KUB.in post operative period as we observed that significantly amount of urine in drain so we Came to conclusion that the kidney function found normal.

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