



UTEROVAGINAL PROLAPSE WITH VESICOLITHIASIS- FROM UNCERTAINTY TO UNDERSTANDING- A TALE OF DIAGNOSIS.

Obstetrics & Gynaecology

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ABSTRACT

Uterine prolapse is condition where due to weakness of ligaments, uterus, cervix, anterior and posterior vaginal wall descends into or out of the introitus. Patient usually presents with something coming out of introitus. Uterine prolapse with vesicolithiasis is a rare case. Our case report highlights the association between vesical calculi and female pelvic organ prolapse. The patient underwent a vaginal hysterectomy with anterior colporrhaphy and posterior colpoperineorrhaphy, and bladder stones were successfully extracted through vaginal cystotomy without complications. Managing bladder stones in the context of pelvic organ prolapse is always challenging and it may differ significantly. In this case, vesical calculi were removed through vaginal route.

KEYWORDS

Uterovaginal prolapse, Vesicolithiasis, Vesical Calculus, Vaginal Hysterectomy, Cystotomy, Cystocele, Procidencia.

INTRODUCTION:

Uterine prolapse occurs in almost half of the women population. Almost half of the women who had given birth suffer from pelvic organ prolapse that is diagnosed through physical examination; however, only 5%–20% of patients present with symptoms, around 11%–19% of women in developed countries go through surgery for pelvic organ prolapse. (1) Uterine prolapse is condition where some or all parts of uterus descended out of the introitus. Patient usually presents with something coming out per vagina, feeling of discomfort. Uterine prolapse with vesicolithiasis is a rare case. Uterine prolapse causes bladder obstruction, urine stasis and chronic infection which became risk factor to increase of urine saturation that can lead to vesicolithiasis. (2)

Uterocervical vaginal prolapse and vesical calculi are two well known disorders; however their coexistence is not commonly seen. Calculi are not common and not thought of. Stasis does promote infection and stone formation. Infection is common but bladder stones are uncommon. Bladder stones may be detected during preoperative clinical examination of prolapse or accidentally on ultrasonography. (3)

Case report:

A 78 years old woman who presented to gynecological outpatient with complaints of something coming out of introitus since 30 years, which was gradual in onset and not associated with pain. Initially it was not associated with bladder and bowel complaints. But since 1 year, she started experiencing burning micturition, increased frequency and urgency to micturate with difficulty in micturition. Her obstetric history was P3L3 which were all home deliveries and she was farmer by occupation. patient denied excreting stones and sand while micturating. on physical examination, there was procidencia, cystocele, rectocele and enterocele with multiple vesical calculi. There was past history of left sided intertrochanteric fracture of femur 1 year

back for which she was operated with implant. There were no associated comorbidities.

Packing was done for 1 week after her first visit. Laboratory results and imaging were reviewed, revealing normal renal function and negative urine culture for infection. Abdominal USG showed mild hydronephrosis and hydroureter with no calculi in kidney but multiple >20 bladder stones with uterine prolapse. And Xray pelvis as shown in fig no.1.



Fig no.1 Pre operative Xray pelvis erect showing bladder stones with implant in left femur

Under Spinal + epidural anesthesia, she underwent ward mayo vaginal hysterectomy with anterior and posterior repair with vaginal vesicolithotomy. After vaginal hysterectomy, a 12F silicon foley catheter inserted and bladder filled with 500ml of normal saline and vaginal cystotomy done at the dome of bladder. Stay sutures were taken to define the bladder wall edges. Multiple bladder stones were removed one by one with help of ovum forceps as shown in fig no.2.



Fig. no 2 showing retrieval of bladder

Fig. no 3 representing bladder stones after stones with the help of ovum forceps retrieval then the procedure was continued with bladder repair using vicryl no. 2-0 in three layers. Bladder leak was tested using retrograde filling of povidone-iodine diluted in 200 ml NS. There was no leak from suture site. Procedure was continued with anterior colporrhaphy and posterior colpoperineorrhaphy. Post operatively bladder stone are counted which were found to be 130 in number (as shown in fig no.3), of which largest stone measured 2*2 cm in size. Post operatively injectable antibiotics were continued and foleys catheter was kept for 2 weeks. Labs were repeated with urine routine microscopy suggestive of 10-15 pus cells /hpf. Antibiotics were continued.

After 2 weeks catheter was removed, women passed urine and discharged successfully on day 16 with normal urine routine microscopy.

DISCUSSION:

Pelvic organ prolapse is the herniation of the female pelvic organs (bladder, uterus, small or large bowel, or vaginal cuff post hysterectomy) through or beyond the vaginal walls due to weakened pelvic floor support. The pathogenesis of POP is multifactorial, including but not limited to childbirth, trauma, hormonal changes, connective tissue disorders, obesity, chronic coughing, and constipation. (4)

Women with POP presents with symptoms of vaginal bulge, urinary and defecation difficulties, pelvic discomfort and sexual dysfunction. It leads to limitations in day to day activity. It also affects the quality of life, leading to physical and psychological discomfort and distress. In long standing prolapse it might lead to obstructive uropathy, bladder outlet obstruction and hydronephrosis. In severe cases it might lead to acute renal failure, septicaemia, uraemia and end stage kidney disease which are rare. (4) The incidence of cystocele is around 9 per 100 women-years, and the affected age group is mainly the geriatric group. Muscles and tissue supporting the bladder become weak, allowing it to herniate out of its place. (5)

Bladder stones have been a common medical condition, the first reported bladder stone dates back to ancient Egypt (7). Vesical calculi can form in cases of stasis of urine because of calcium deposition over oxalate crystal sediments which leads to calcium oxalate stone formation. Woman might remain asymptomatic. There might be symptoms which are believed to be because of uterocervicovaginal prolapse. Though cystocele is a common disorder, association with bladder calculi is uncommon. Long-standing uterovaginal prolapse with bladder outlet obstruction, chronic infection can lead to stone formation. Calculi could be missed unless USG or Xray is done. There was evidence of hydronephrosis on USG which lead to diagnosis of bladder calculi. (3)

Urinary stasis is a very common occurrence in the setting of a massively prolapsed bladder. Urinary stasis provides an ideal environment for colonisation with urease-producing bacteria, alkalinising the urine. Infection will then provide the nidus on which calcium, magnesium and ammonium salts may condense. Dahllite and struvite stones are the most common stones found in the bladder, and are frequently called 'infection stones,' occurring in the setting of alkaline urine. (6) In our case biochemical analysis of bladder stone found to be calcium oxalate monohydrate and dihydrate.

Comparing our case with the literature, from the data we collected, we found that postmenopausal women experience symptoms of vaginal bulge and urinary complaints, similar to our patient. The presence of bladder stones was incidental in most cases, as they were discovered during imaging or intraoperative procedures. This suggests that bladder stones may often go unnoticed or undiagnosed in patients with

POP unless specifically investigated. As a result we should have high index of suspicion for bladder stones, especially in patients with advanced chronic POP, and imaging modality should be considered during preoperative investigations. It is also important to determine when both POP surgery and vesicle stone removal should be performed simultaneously. As noted in our literature review, most opted for simultaneous removal of bladder stones and POP surgery (4). A through literature search was conducted aiming to identify relevant case report describing the association between advanced utero vaginal prolapse and urolithiasis, a total of 26 case report were found in English literature, out of that in 15 cases, route of vesical stone removal was transabdominal and remaining 7 cases were transvaginal, 1 case report of transurethral vesical calculi removal and in 1 case, calculi expulsion was spontaneous. In previous cases maximum number of stones retrieved were 39. (Xi Yuan & Kwok Weng Roy Ng 2022). In our case, we retrieved 130 stones of different sizes. One case series consisting of two cases has been published; otherwise, the literature is confined to several case reports of this phenomenon, the first being in 1950 by Gorga and Neme (6).

CONCLUSION:

Vesicolithiasis with cystocele is rare case. In our case prolonged proidentia with huge cystocele lead to urine retention, stasis and infection which in turn lead to formation of multiple calculi in bladder. she had left sided intertrochanteric femur fracture for which she was bedridden for longer duration and oral intake of calcium tablets during this period would also have been contributed for stone formation. All these factors might have contributed for stone formation. If proper measures taken to treat prolapse earlier then such complications can be prevented.

The lack of standardized guidelines for managing bladder stones in the presence of POP highlights the need for further research.

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