

Large Vesical Calculus Causing Labor Dystocia: A Case Report

Sangeeta Ramteke¹, Medha Davile², Purnima Bhandari³, Mangala Sonak¹

¹Associate Professor, Department of Gynaecology and Obstetrics, Government Medical College and Hospital, Nagpur, Maharashtra, India, ²Lecturer, Department of Gynaecology and Obstetrics, Government Medical College and Hospital, Nagpur, Maharashtra, India, ³Postgraduate Student, Department of Gynaecology and Obstetrics, Government Medical College and Hospital, Nagpur, Maharashtra, India

Abstract

Obstructed labor is a well-known clinical entity in maternity units, cephalopelvic disproportion being the most common cause. Here, we report a rare case of obstructed labor, where the cause was a large vesical calculus. Patient was a referred case from the district hospital. The diagnosis of large vesical calculus causing labor obstruction was made by doing per vaginal examination. On per vaginal examination, a large calculus of size approximately 6 cm × 6 cm was palpated from anterior vaginal wall which was preventing the descent of head of the fetus. Hence, emergency cesarean section was performed with simultaneous removal of vesical calculus by cystolithotomy. The post-operative period was uneventful.

Key words: Cesarean section, Cystolithotomy, Labor dystocia, Large vesical calculus

INTRODUCTION

Obstructed labor is a well-known clinical entity, and cephalopelvic disproportion is the most common cause. However, a large vesical calculus causing labor obstruction is extremely rare.¹ Very few cases of large vesical calculus causing labor obstruction have been reported in literature till date. During pregnancy, it may cause infection, abortion, premature delivery, urinary fistula and rarely labor dystocia² and uterine rupture. Sometimes, vesical calculus remains asymptomatic, and it attains a large size of several centimeters. In such cases, it may be diagnosed first time during labor, causing labor obstruction where timely intervention must be taken to prevent vesicovaginal fistula² or uterine rupture. Thus, timely diagnosis and intervention can prevent maternal and fetal morbidity and mortality.

CASE REPORT

A 35-year-old female was referred from district hospital as a case of the second gravida with full term gestation with

obstructed labor. She had previous full term normal delivery 4 years back without any complications. She was unbooked and had no any antenatal check-up and ultrasonography anywhere in this pregnancy. She did not have any complaints in view of vesical calculus, i.e., dysuria, lower abdominal pain, incontinence, urinary frequency, urgency during preconception, and antenatal period. Hence, she did not required to visit any doctor. Day before the admission, she had abdominal pain and per vaginal leaking, so she went to district hospital. After observation for around 12 h, they referred her to Government Medical College and Hospital, Nagpur, as the second gravida with full term gestation with obstructed labor with per vaginal findings mentioned as cervix 5 cm dilated, station at -3. Patient reached to us after around 3 h of referral. On examination, she had good uterine contractions, cephalic presentation, fetal heart rate was 110/min, cervical dilatation was 5 cm, membrane was absent, liquor was thick meconium, station was at -3, and caput of 2 cm × 2 cm was present. A hard mass of size approximately 6 cm × 6 cm was palpated in the anterior vaginal wall which was preventing the descent of head of the fetus. Hence, the patient was immediately shifted for cesarean section with an indication of obstructed labor due to large vesical calculus with fetal distress. Surgeons were called in operation theater for the management of vesical calculus. Foley's catheterization was done. Cesarean section was performed under spinal anesthesia. A female baby of 2.5 kg was delivered. Baby cried weakly after birth. Hence, the baby was immediately shifted to neonatal intensive care unit. A large calculus of size approximately 6 cm × 6 cm palpated

Access this article online



www.ijss-sn.com

Month of Submission : 05-2017
Month of Peer Review : 06-2017
Month of Acceptance : 07-2017
Month of Publishing : 07-2017

Corresponding Author: Dr. Purnima Bhandari, Room No. 73, MARD Hostel, Government Medical College and Hospital, Nagpur, Maharashtra, India. Phone: +91-9049037239. E-mail: purnimabhandari9@gmail.com

in bladder. Hence, cystotomy was done by surgeons, and a 6 cm × 6 cm calculus was removed. The urinary bladder incision was closed in two layers.

Baby was given injectable antibiotics. However, baby expired on day 3 in neonatal intensive care unit due to sepsis.

Foley's catheter was kept for 21 days and then removed. Patient was observed for another 2 days after removal of the catheter and then she was discharged.

The patient came for follow-up after 15 days, and she had no complaints. The patient was advised contraception (Figures 1-3).

DISCUSSION

Vesical calculus is often found in women with urinary stasis due to outlet obstruction or detrusor instability resulting in significant post-void residual urine. It is also found in healthy women.³ Alkaline urine caused by urea splitting organisms (*Proteus*, *Klebsiella*, *Serratia*, and *Enterobacter*) is responsible for struvite stones (ammonium magnesium phosphate stones).² Renal calculus if drops in the urinary bladder may remain as foreign body and attains larger size due to deposition of phosphates around it.^{3,4} Vesical calculus is usually associated with irritating symptoms such as dysuria, lower abdominal pain, incontinence, urinary urgency, and frequency. However, if vesical calculus does not obstruct the urinary bladder inflow, outflow or get infected, it may remain asymptomatic and may attain a large size of several centimeters. In such cases, it is found incidentally,³ as in our case. The symptoms usually found due to vesical calculus are often overlooked in pregnancy because the distinction between clinical features of normal physiology and pathology during pregnancy is often unclear.⁵ The common complications of vesical calculus during pregnancy are infection, abortion, premature deliveries, and rarely, a large calculus can cause labor dystocia, urinary fistula and very rarely, and uterine rupture. Vesical calculus is diagnosed by X-ray and intravenous pyelogram which are not commonly performed during pregnancy.⁶ Ultrasonography during pregnancy can diagnose but it can miss vesical calculus in the second half of pregnancy due to the interference of the fetal head.⁶ It may be very difficult to diagnose vesical calculus during pregnancy unless strong symptoms develop and persist or clinician is suspicious. A large vesical stone may be palpable on vaginal examination, as in our case. The management of a large vesical calculus depends on gestational age. If it is symptomatic and diagnosed during antenatal period, then cystolithotomy is preferred,^{1,7} and by this, we can avoid cesarean section. If calculus is neglected, then it can trap between symphysis pubis and fetal head

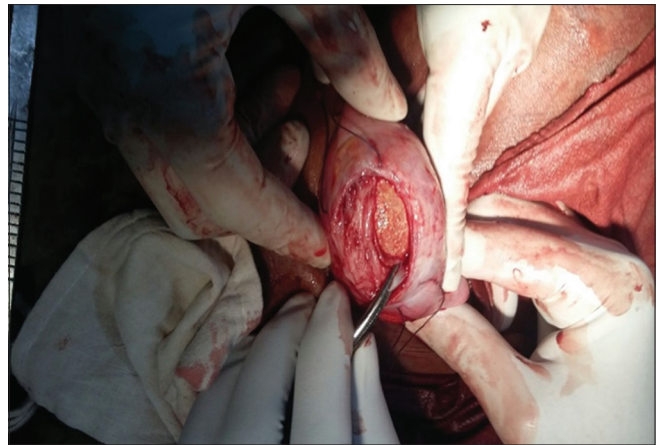


Figure 1: Calculus inside urinary bladder

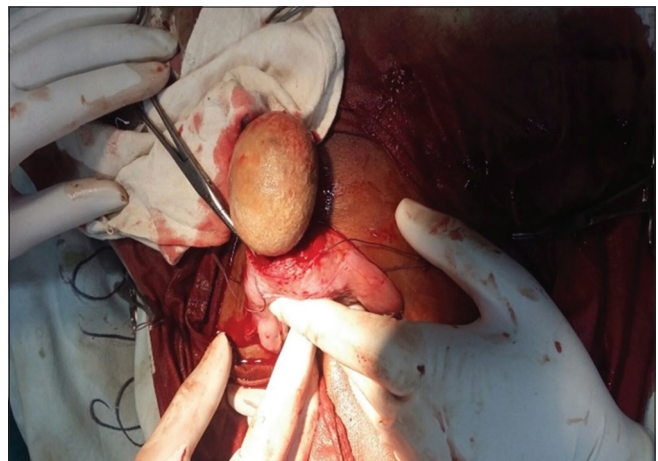


Figure 2: Calculus of 6 cm x 6 cm removed from urinary bladder



Figure 3: After removal of calculus, sutured urinary bladder lying over uterus

causing arrest of fetal descent and labor dystocia.^{2,8,9} Rarely, the calculus dislodges and comes in front of fetal head, and subsequent pressure on fetal head by each and every uterine contraction causes prolapse of the calculus along with anterior vaginal wall, and this causes pressure damage to the

urinary bladder wall.¹⁰ If calculus is detected at this stage then cesarean section with cystolithotomy may be associated with post-operative hematuria and vesicovaginal fistula.⁶ If labor is further neglected, then calculus may be expelled out by rupturing the urinary bladder and vaginal wall.¹⁰

CONCLUSION

Vesical calculus is a rare cause of dystocia. The diagnosis is typically made by patient's history, clinical examination and routine antenatal ultrasonography preferably in the first trimester. Mode of delivery can be planned according to the size of the calculus and gestational age. Complications can be prevented by timely diagnosis and proper management. If a large vesical calculus is diagnosed during antenatal period, then cystolithotomy should be done, and cesarean delivery can be avoided, but the indications are same as for non-pregnant state. If large vesical calculus is diagnosed during labor, then a cesarean section with cystolithotomy should be done to minimize urinary bladder damage and chances of fistula formation.

Hence, the pregnant woman with urinary complaints should not be neglected and should be evaluated to rule

out vesical calculus. We should remain vigilant while doing ultrasonography, especially in the first trimester to rule out vesical calculus as in some cases vesical calculus may remain asymptomatic.

REFERENCES

1. Escobar-del Barco L, Rodriguez-Colorado S, Dueñas-García OF, Avilez-Cevasco JC. Giant intravesical calculus during pregnancy. *Int Urogynecol J Pelvic Floor Dysfunct* 2008;19:1449-51.
2. Penning SR, Cohen B, Tewari D, Curran M, Weber P. Pregnancy complicated by vesical calculus and vesicocutaneous fistula. *Am J Obstet Gynecol* 1997;176:728-9.
3. Stav K, Dwyer PL. Urinary bladder stones in women. *Obstet Gynecol Surv* 2012;67:715-25.
4. Papatsoris AG, Varkarakis I, Dellis A, Deliveliotis C. Bladder lithiasis: From open surgery to lithotripsy. *Urol Res* 2006;34:163-7.
5. Chaliha C, Stanton SL. Urological problems in pregnancy. *BJU Int* 2002;89:469-76.
6. Ait Benkaddour Y, Aboufalah A, Abbassi H. Bladder stone: Uncommon cause of mechanical dystocia. *Arch Gynecol Obstet* 2006;274:323-4.
7. Williams B. Two cases of slippery elm bladder calculus in pregnancy. *J Obstet Gynaecol Br Emp* 1954;61:499-500.
8. Seth S, Malik S, Salhan S. Vesical calculus causing dystocia. *Eur J Obstet Gynecol Reprod Biol* 2002;101:199-200.
9. Neer CS. Dystocia from large bladder stone impacted in the pelvis. *JAMA* 1919;72:479.
10. Sarma V. Vesical calculus as a cause of labour dystocia. Report of a case. *Postgrad Med J* 1960;36:626-8.

How to cite this article: Ramteke S, Davile M, Bhandari P, Sonak M. Large Vesical Calculus Causing Labor Dystocia: A Case Report. *Int J Sci Stud* 2017;5(4):286-288.

Source of Support: Nil, **Conflict of Interest:** None declared.