

## Uterovaginal Prolapse in a Newborn: A Case Report

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### Abstract:

**Background:** Uterovaginal prolapse (UVP) manifesting at birth is very rare. It is most commonly associated with neural tube defects (occult or otherwise). Poor innervation of the pelvic floor muscles and weakness of the ligaments that support the uterus and vagina are responsible for uterovaginal prolapse. Treatment is mostly conservative.

**Case summary:** We report a case of uterovaginal prolapse in a newborn that was present at birth. The newborn was delivered vaginally (cephalic). He had lumbar myelomeningocele and bilateral club feet. She was managed conservatively by manual reduction of the mass and strapping of the thighs and legs together.

**Conclusion:** Manual reduction with strapping of the lower limbs is simple and effective method of treatment of neonatal uterovaginal prolapse.

**Keywords:** prolapse, uterovaginal, myelomeningocele, cephalic, effective.

### 1. INTRODUCTION

Uterovaginal prolapse in a newborn is a rare condition and is diagnosed at birth or in the first few days of life. It is usually associated with spinal dysraphism, occult or otherwise<sup>1</sup>. Manual reduction, use of Foley catheter, pessary and other self-retaining devices are some of the management options<sup>2</sup>. We report a case of uterovaginal prolapse in a newborn who also has myelomeningocele and was managed successfully by manual reduction. The reduction was maintained by application of crepe bandage that holds the thighs and legs together in a mermaid fashion.

### 2. CASE DESCRIPTION

Our patient is a day old female neonate, product of term gestation, born from a 37 year old para 4 mother. The baby has protrusion of a mass through the vulva that was noticed at birth. She also has a swelling located at the lower back that was present at birth. Baby was delivered vaginally (cephalic) and cried at birth. She passed meconium and suckles the breast. The mother booked for antenatal care at a gestational age of 13 weeks. There was no history of ingestion of herbal concoction. She took routine antenatal drugs that contains iron and folic acid. The mother had a febrile illness at 21 weeks of gestation and was given an antimalarial (? name) at a health center. The mother had no skin rashes or foul smelling vaginal discharge

during pregnancy and she is not a known hypertensive nor diabetic.

The baby was delivered in a health centre and was referred to Enugu State University Teaching Hospital (ESUTH) Enugu on account of the protrusion from vulva and the lower back swelling that were present at birth. At the initial evaluation at ESUTH, she had a temperature of 36.3 degrees Centigrade, respiratory rate of 30 cycles per minute, heart rate of 150 beats per minute, occipitofrontal circumference (OFC) of 33 centimeter (cm). There was 6 cm by 6 cm fleshy mass protruding through the vulva. The mass increases in size when the baby cries. A cervical os is noted at the tip of the mass. She has a female external genitalia (see figure 1). There is also a midline mass located at the lumbosacral region of the spine. This lumbosacral mass was not covered by skin (figure 2). There was bilateral club feet.



Figure 1: Picture of the uterovaginal prolapse



Figure 2: Picture of the myelomeningocele.

On investigation, the complete blood count, serum electrolyte, urea and creatinine were normal. Abdominal ultrasound showed no abnormality. Transfontanelle ultrasound scan showed no dilatation of the ventricles.

Parents were counselled and informed consent obtained. Urethral catheterization was done and the prolapsed uterovaginal mass manually reduced and bandage applied from the thighs to the legs (figure 3). The bandage was removed after 48 hours (for perineal cleaning) and the uterovaginal prolapse was found not to be completely reduced. The bandage was re-applied for another 48 hours. After the second 48 hours, the bandage was removed and mass was found to be completely reduced. There was no recurrence of the prolapse afterwards (figure 4).



**Figure 3:** Crepe bandage applied after reduction of the prolapsed



**Figure 4:** Picture of the index patient after successful reduction of the uterovaginal prolapse

### 3. DISCUSSION

Uterovaginal prolapse could be defined as the herniation of the uterus into and beyond the vagina as a result of failure of muscular, ligamentous and fascial supports<sup>3</sup>. Uterovaginal prolapse in a newborn is rare. The first description of genital prolapse is found on Ebers papyrus (1500BC). The first reported case of neonatal uterovaginal prolapse was in 1723. In 1897, Ballantyne and Thomson wrote a formal review of uterovaginal prolapse in a newborn. Findley in 1917, wrote a series on neonatal uterovaginal prolapse. Findley stated that uterovaginal prolapse is related with spina dysraphism in 86% of cases<sup>4</sup>.

The uterus and vagina are supported by the levator ani (pelvic diaphragm), uterosacral ligaments, cardinal ligaments and pubocervical fascia. Neonatal uterovaginal prolapse occur as a result of the weakness

in the pelvic muscles and ligaments. The weakness in the pelvic muscle is due to poor innervation. The pelvic muscles are normally innervated by the perineal branch of the sacral nerve. Defects in these nerves or their spinal cord component results in weakness of the pelvic diaphragm and subsequent descent of the uterus and vagina<sup>2</sup>.

Spinal dysraphism is the most common risk factor for uterovaginal prolapse<sup>4</sup>. The index case has spina bifida in the lumbosacral region. Other risk factors for uterovaginal prolapse include prolonged breech presentation, birth trauma, congenital cutis laxa and prematurity<sup>5</sup>. The complications that may result from uterovaginal prolapse are metaplasia to the endometrium and obstructive uropathy. Metaplasia to the endometrium results from exposure to the external environment. Obstructive uropathy occurs from kinking and pressure to the urethra<sup>2</sup>.

Due to the rarity of neonatal uterovaginal prolapse, there is no established protocol for the management of this condition. Conservative management involves manual reduction of the uterovaginal prolapse and strapping of the thighs and legs. When the prolapse is reduced to its anatomical location, edema subsides and adhesion helps to fix the uterus and vagina to its normal anatomical location. Conservative management has a success rate of 90%. Recurrence is the main challenge of conservative management<sup>5</sup>. Other options of treatment of uterovaginal prolapse include: 1) application of pessary after manual reduction of the prolapse. The vaginal pessary is fixed to the vaginal wall using fine sutures. The pessary is removed after one month<sup>6</sup>. 2) Use of purse string suturing technique over the labia after manual reduction of the prolapse. The purse string sutures reduce recurrence. These purse string sutures are removed after 6 days following repair of the spinal cord defect<sup>7</sup>. 3) Uterovaginal prolapse may be reduced under general anaesthesia and partial fusion of the labia majora done using intermittent suturing<sup>8</sup>. 4) Some success have been recorded with the insertion of Foley catheter after manual reduction of prolapsed uterovaginal mass<sup>9</sup>.

The index case was successfully managed by manual reduction of the prolapsed uterovaginal mass and strapping of both thighs and legs using bandage for 48 hours. This was followed by recurrence of the uterovaginal mass and the bandage was re-applied for another 48 hours. On removal of the bandage after the second 48 hours (96 hours on the whole) there is no recurrence of the prolapse.

In cases of failed conservative management, some rare methods of fixation have been suggested. These methods include sling procedure, sacral cervicopexy, uterine ventrosuspension and abdominal sacrocolpopexy<sup>8</sup>. Hysterectomy and cervical amputation have also been reported as the last option of treatment when all the methods of treatment fail<sup>10</sup>.

## 4. CONCLUSION

Uterovaginal prolapse is a rare condition in newborn female babies which is usually associated with spinal dysraphism. Uterovaginal prolapse can be successfully managed by manual reduction and the reduction maintained by strapping the thighs and legs.

We recommend this simple and effective method of management for cases of neonatal uterovaginal prolapse. This conservative method is easy to apply and cost effective. The possible complication from the conservative method of treatment is recurrence of the prolapse.

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