

Uterine prolapse complicating pregnancy: A case report

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Abstract

Uterine prolapse concurrent with pregnancy is a rare event. Complications resulting from the prolapse of the uterus in pregnancy vary from minor cervical infection to spontaneous abortion, preterm labor and maternal and fetal death. We report a case of stage 3 uterine prolapse during pregnancy presented at our antenatal clinic. The patient had pre-existing uterine prolapse,

was treated conservatively with bed rest and the use of a pessary and had a successful vaginal delivery at 39 weeks of gestation. Conservative treatment of these patients throughout pregnancy can result in an uneventful, normal, spontaneous delivery.

Key words: uterine prolapse; pregnancy; management

Uterine prolapse is the protrusion of the cervix and uterus towards the introitus due to poor cardinal and uterosacral ligament apical support¹. The prevalence of any degree of prolapse in women presenting for routine gynaecological care with loss of vaginal or uterine support, ranges from 30-38%, while 2 - 6% of the population have prolapse beyond the hymen (stage 3)². Uterine prolapse during pregnancy is undoubtedly a rare condition with estimated incidence between 1 in 10,000 and 15,000. This incidence rate has decreased during the past decade, especially in developed countries, mainly due to the gradual decrease in parity³.

Case report

A 32 year old, gravida 2, woman presented to the

obstetrics outpatient clinic at 8 weeks gestation (Figure 1, 2). The patient had a known history of cervical prolapse during the past three years and according to Pelvic Organ Prolapse Quantification (POPQ) system the prolapse was classified as Stage 3 (more than 1 cm below the plane of the hymen but protrudes no further than 2cm less than the total length of the vagina). She was fitted with a donut pessary for uterine support.

Her obstetric history included a vacuum-assisted vaginal delivery at 29 years of age at 39 weeks gestation. Duration of labor was considered normal with the first stage of labor lasting 7 hours and the second stage 45 minutes. She delivered a 3,420gr male infant with Apgar scores of 9 and 10 at minutes 1 and 5, respectively.



Figure 1,2. Uterine cervical prolapse in pregnant woman with noticeable cervical edema and inflammation

With removal of the pessary the prolapse was apparent but easily reduced. She was advised to continue pessary support with regular removal and cleaning of the pessary. No complications were observed while the pregnancy progressed to term. She presented at 39 weeks gestation with spontaneous labor. The cervix was at the level of the introitus, 4cm dilated, with intact membranes. After approximately six hours of uneventful labor, she delivered a 2,980gr female infant with Apgar scores of 9 and 10 at minutes 1 and 5, respectively.

Discussion

The first known writings on uterine prolapse were found in the Ebers Papyrus of about 1550 BC. Hippocrates (ca. 460 - 370 BC) referred to uterine prolapse extensively in his writings and he even proposed a number of treatments among which was a vaginal pessary in the form of a half pomegranate soaked in wine and being introduced into the vagina following the successful reduction of the prolapse with a cold wine impregnated sponge⁴.

Uterine prolapse during pregnancy is a rare condition, occurring during the pregnancy or pre-existing. Many etiological factors may contribute to the development of the disorder. Multiparity, vaginal delivery, advanced maternal age

and increased body mass index are the most usual causative factors. White and Hispanic women have a higher incidence of uterine prolapse compared to those of African and Asian descent. This could be due to genetic racial differences in pelvic structure and the strength of supporting pelvic muscles and connective tissue. The strong familial incidence of genital prolapse is proved by the fact that it occurs equally in identical twins given the same conditions of stress. Pelvic surgery (e.g. colposuspension), pregnancy, especially at young age, previous childbirth with medical intervention, with prolonged second stage of labor or delivery of a macrosomic neonate, have been associated with higher rates of uterine prolapse. Moreover, contributing factors are situations that lead to raised intra-abdominal pressure, including straining, constipation, heavy lifting and chronic obstructive airway disease^{4,9}.

Pre-existing prolapse is associated with infertility, spontaneous abortions and preterm labor. Spontaneous abortion rate is reported of up to 15%. Cervical edema is due to venous obstruction and stasis whereas the edematous protruding cervix is susceptible to mechanical trauma which could lead to ulceration and infection. Urinary tract infection and acute urinary retention have also been

reported as complications of uterine prolapse during pregnancy⁹⁻¹¹.

The main intrapartum complications include inability of cervical dilatation, cervical laceration and obstructive labor. Inability or resistance of cervical dilatation is due to the fact that the process is initiated outside the introitus while the edema of the cervix adds strain to its fibrous nature and may lead to cervical dystocia. Uterine rupture at the lower segment of the uterus has also been reported^{12,13}.

In the early 20th century puerperal infections were more common with a mortality rate reaching 5% in gravidas with uterine prolapse. However, the last reported maternal death, as a result of sepsis, was in 1925¹. Uterine prolapse may persist or even be exacerbated by pregnancy due to the physiological increase of progesterone and cortisol which leads to softening and stretching of the pelvic tissues⁹.

The case of pregnancy complicated with uterine prolapse presented here, is the only one which the obstetrics and gynecology clinic in Democritus University hospital was called to manage during the past 7 years. This woman suffered severe uterine prolapse of third degree, however an uncomplicated pregnancy and delivery was accomplished with a conservative treatment with pessary.

The management plan of uterine prolapse in pregnancy must be individualized and the obstetrician should consider the above mentioned possible complications. Bed rest in a slight Trendelenburg position should be advised in order to reduce edema and replacement of the uterus, good genital hygiene is imperative and local antiseptics could be used in case of an ulcerated and infected cervix and, following the accomplishment of reduction, continual use of a pessary is recommended, which should not be removed until the onset of labor^{9,11}. Pessaries are available in a variety of shapes and sizes in order to suit different patients. There are two main types of pessaries; support pessaries (including ring, Gehrung, Hodge) and space occupying pessaries (cube, donut and Gellhorn)¹³. It is

preferable to choose the largest pessary that the vaginal vault can accommodate. Reduction of the prolapsed uterus will protect the cervix from local trauma and prevent the possibility of incarceration. Furthermore, a pessary during the first stage of labor could prevent cervical dystocia and therefore the need for cervical Dührssen's incisions^{9,11,14}.

Labor induction with misoprostol or oxytocin is best to be avoided. Uterine fundal pressure to increase expulsive efforts in labor should not be performed as it could lead to calamitous consequences^{5,16}. An elective cesarean section could be a safe mode of delivery, especially in cases with an edematous and elongated cervix^{12,17,18}. For women who have completed their families Meydanli et al suggest the evasive approach of cesarian hysterectomy with the vaginal cuff is suspended to the periosteum overlying the sacral promontory after the procedure¹⁹.

A more "state of the art" approach was described by Matsumoto et al²⁰ who performed laparoscopic uterine suspension in early gestation. Nevertheless, even minimally invasive therapy techniques in the gravid patient should have an approach where safety of the mother and fetus are both considered. Laparoscopy, once feared and contraindicated in pregnancy, has been gradually accepted and applied as more and more data supporting its safety and use have accumulated in the past decade. Without a doubt, laparoscopy and robotic assisted operations will radically alter the practice of obstetrics and gynecology in the 21st century²¹.

Conclusion

Uterine cervical prolapse concurrent with pregnancy is a rare event. The obstetrician should bear in mind the threat of preterm labor and delivery warrants close observation. However, literature review has a consensus that conservative treatment of these patients throughout pregnancy can result in an uneventful, normal, spontaneous delivery. ■

Conflict of interest:

All authors declare no conflict of interest.

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