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Case Report

A rare case of cribriform hymen with pregnancy

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ABSTRACT

The genital tract anomalies in females have a major impact on their sexual and menstrual life. Cribriform hymen is a rare condition in which the hymen membrane contains multiple perforations. This condition occurs in 1% of the females and requires management if there is any interference in the menstrual flow or sexual function. Here in this case report we present a 21-year-old pregnant woman with cribriform hymen. The patient had a history of hematocolpos at the early menstrual age and has done needle drainage occasionally during the menstrual cycles. Thus, to prevent further complications lower segment caesarean section (LSCS) was done to deliver the baby. Hymenectomy was also done simultaneously after LSCS to improve the quality of life of the patient during the menstrual cycle. The patient was discharged after the procedure under stable conditions.

Keywords: Cribriform hymen, Hematocolopos, Genital tract anomaly

INTRODUCTION

The hymen is the thin layer of tissue surrounding the vaginal introitus. This membrane is usually perforated allowing drainage during the menstrual cycle. The hymen is covered by the thick stratified squamous epithelium with elastic and collagenous connective tissue. The hymen is an avascular membrane without any biological function, thus any rupture in the membrane does not cause any medical complications.[1] Based on different configurations hymen anatomy is of various types namely annularis (annular-shaped), semilunaris (crescent-shaped), cribriformis, navicularis (imperforate), microperforate, fimbriatus or septate.[2] The hymen tissue undergoes morphological changes due to hormonal variations. In the newborn, the hymen remains thick and swollen by the stimulation of placental hormones transferred during pregnancy. In the puberty stage, the hymen becomes thick and elastic due to the estrogen hormones. This elastic property in the hymen enables the stretch during penetration.[3]

Female genital tract anomalies have an important impact on sexual and menstrual life and fertility. The incidence of Mullerian duct anomalies is rare, ranging from 0.001% to 10%, the most common is imperforate hymen with incidence ranging from 1/1000 to 1/10,000. The incidence of cribriform hymen is even less <0.001%. They can present as infertility, dyspareunia, hematocolpos/metra, and urinary complaints.[4] Hymen imperforatus is a congenital genital anomaly characterized by the presence of an imperforated hymen membrane. The imperforated membrane covers the vaginal and urogenital epithelium. This type of variation is usually found in the cribriform, septate, or micro perforated hymen. The cribriform hymen refers to a condition where the hymen layer consists of multiple perforations.[5] In some newborns, the introitus is filled with the white bulging mass causing a distended vagina and uterus. This condition is referred to as hydrocolpos or mucocolpos. Hydrometrocolpos is a condition in neonates in which the distension in the uterus and vagina occurs due to extensive retained fluid outlet obstruction.[6] Likewise, obstruction in menstrual blood due to the imperforate hymen causing distension in the vagina is defined as hematocolpos. Hematocolpos is usually presented during the menarche in young girls with abdominal pain during the menstrual cycle.[7] Here, we

report a rare case of cribriform hymen with pregnancy and a history of hematocolpos.

CASE REPORT

A 21-year-old pregnant woman was presented to the outpatient department with complaints of dyspareunia for 2 months since marriage and had amenorrhea missed two cycles for the past 2 months. The patient was tested with a urine pregnancy test in a private clinic and the results were positive. Menstrual history involves a regular 30-day cycle with five days of menstrual flow, using 2 pads per day, and the absence of clots or dysmenorrhea. The past medical history of the patient reveals hemotocolpos due to imperforate hymen at 13 years of age. The hematocolpos was managed by occasional needle drainage during the menstrual cycles. On per vaginal examination at the time of visit, the vaginal introitus was completely covered by the cribriform hymen. Pregnancy was confirmed by ultrasonography (USG) at 8 weeks of gestation. The magnetic resonance imaging (MRI) plain of the pelvis showed incidental gravid uterus, and T2 hypointense septum within the endocervical canal attached to the right lateral wall of the cervix. The septum is partially dividing the endocervical canal into two halves (anterior and posterior), with an ill-defined septum at the level of the vaginal introitus. There were no hematocolpos found during the investigation.

The antenatal period was uneventful and the patient was regularly followed up throughout all three trimesters. The patient was started with folic acid supplements in the first trimester. In the second trimester, the patient reported normal fetal movements; an anomaly scan was done presenting a choroid plexus cyst and the resolution of the cyst at 26 weeks. During the third trimester, a growth scan was performed, revealing clear fetal movements and normal development of the baby. The scan indicated a reduction in amniotic fluid levels.

The patient was admitted at 38 weeks 3-days period of gestation with the cephalic presentation, cribriform hymen with the cervical septum. On examination during admission patient is moderately built and nourished with a pulse rate of 80 beats per minute, a blood pressure of 120/70 mmHg. Lower segment cesarean section (LSCS) was done electively and delivered female baby weighing 2600 grams. Hymenectomy using a cruciate incision was performed concurrently after LSCS. Intraoperatively multiple perforations were seen of which only one being patent on the right lateral side of the hymen was noted. No septum in the vagina or uterus was observed during the procedure. The vaginal opening of 0.5×0.5 cm was noticed and using the probe vaginal opening was extended laterally and vertically, and the raw margins of the hymen sutured by simple sutures. The clinical images of the cribriform hymen before and after hymenectomy were given in the Figures 1 and 2. The patient gave verbal consent for publication of this case with the clinical images. The patient was stable after the procedure and was advised to avoid strenuous activity, lifting heavy weights and abstinence for 6 weeks. The patient was managed post-operatively and discharged in good health condition.

Figure 1: Cribriform hymen before hymenectomy.

Figure 2: After hymenectomy post LSCS.

DISCUSSION

An imperforate hymen occurs when a hymen, a thin membrane of stratified squamous epithelium that encloses the vaginal introitus, does not tear on its own during neonatal development. This condition causes symptoms like primary amenorrhea and obstruction in the female genital and urinary tracts. Hence, proper diagnosis at the right time and effective treatment providing patient-centered care with expertise in gynecology is essential.[8] Patients with imperforate hymen are usually presented in the acute stage without an early diagnosis. Thus, surgical intervention is recommended to prevent further consequences like endometriosis, retrograde menstruation, and fertility-related complications.[9]

The management of the hymenal variations should be made based on the age at which the onset of symptoms and complications arises. In patients with hematocolpos, a simple needle incision and drainage of an imperforate hymen should be avoided. This might increase the chance of ascending infection and sepsis. Hence, the patients and their families should be educated regarding the role of hymen in sexual function. The best time for performing the hymenectomy is before the development of pain and after

pubertal estrogenization of the hymen tissue.[10] In this case study we report 21-year-old pregnant women with cribriform hymen. In these cases, assessing the progress of labor per vaginally is a great challenge. Hence, to avoid complications by vaginal delivery, a timely decision for elective LSCS was made to deliver the baby. An imperforate hymen does not cause any complications or long-term effects on fertility or sexual function. It is an isolated tissue which upon hymenectomy procedure helps in the egress of the menses. Thus, hymenectomy was performed concurrently after the LSCS with the intention of improving the sexual and menstrual life of the patient.

CONCLUSION

Cribriform hymen is a rare condition of genital anomaly. The condition gets medical attention with the onset of symptoms like primary amenorrhea, dyspareunia or during the complaints in the urinary tract. Early diagnosis of the imperforated hymen while screening the newborn for anatomical and congenital abnormalities can aid in prompt treatment. A timely decision for elective LSCS can be made in order to avoid complications by vaginal delivery since in such cases assessing progress of labour per vaginally is a challenge. In order to improve sexual and menstrual life, hymenectomy can be performed as in this case.

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