

Imperforate Hymen in a Teenage Girl: A Case Report

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ABSTRACT

Background: Imperforate hymen is the most common congenital obstructive anomaly of the female reproductive outflow tract. The incidence of imperforate hymen is 0.01% - 0.1% of all newborn females. **Aim:** The aim of the report is to present this uncommon clinical condition and create awareness on the presentation and management modalities. **Case Report:** Miss GS a 14 year old secondary school student with cyclical lower abdominal pain and absence of menstruation of one year duration. Examination revealed an 18 week uterine size and an imperforate hymen. She had hymenotomy in theatre under general anaesthesia with drainage of haematometria and haematocolpos. She was discharged in good clinical state. **Conclusion:** Imperforate hymen is a rare clinical condition. A high index of suspicion in pubertal girls with cyclical abdominal pains with absence of menstruation should be entertained. A favourable outcome follows prompt diagnosis and effective treatment.

Keywords: Imperforate, Hymen, Cyclical, Hymenotomy, Incision

INTRODUCTION

Imperforate hymen is a rare congenital anomaly where a hymen without an opening completely obstructs the vagina thereby preventing menstrual blood to flow out [1]. It is the most common congenital obstructive anomaly of the female reproductive outflow tract [2]. The incidence of imperforate hymen is 0.5% - 1% of all newborn female [2]. There are variations in the embryonic development of the hymen, this may be due to fenestration, septa bands as well as microperforations [3]. In addition, there is anterior displacement and differentiation in the rigidity with or without elasticity of the hymenal tissue [4]. As part of physical examination the inspection of the neonate or child's external genitalia and anus is necessary [5]. The pediatrician should be part of the physical examination by the obstetrician [6]. Variations of this hymenal differentiation can be done in the delivery room by the obstetrician taking note of the relationship between the structure caused by oestrogen [4,5]. Due to the effect of oestrogen on the neonate or child the labia majora are plump, the hymen is elastic and fimbriated with the mucosal surfaces often pale [5]. Imperforate hymen has been diagnosed with prenatal ultrasound scan together with bladder outlet obstruction due to hydrocolpos and mucocolpos. Despite recommendation for the inspection of the external genitalia during the neonatal and early childhood period, variations in hymenal anatomy are missed until menarche [6]. Hymenotomy are often postponed to pubertal period due to scaring in early childhood because low levels of endogenous estrogen [5].

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From the historical perspective, researchers have revealed the dimensions of the hymenal opening to be approximately 1 mm for each

year of age ruling out neonatal period when maternal estrogen lead to early elasticity [4,5]. However, in prepubertal age, a remarkable widening referencing this guideline may be suggestive of possible child sexual abuse. The draw back to this guide the type of device to be used, the degree of child relaxation, the position of the examination and the examiner [5]. Specialist in child sexual abuse assessors have used colposcopy and aided visual examination to examine the morphology and integrity of the hymenal ring [4,5]. The diagnosis of imperforate hymen is seldom made in infancy. The infant may have bulging, yellow-grey mugs at or beyond the introitus [4,5]. The presence of an abdominal mass has been described in association with urinary obstruction [4]. Most often a planned hymenotomy during puberty is a wise course of action in majority of cases diagnosed in infancy or childhood; assuming there are no urinary symptoms or obstruction [6]. In the adolescent age group, the patient may often time present with cyclical abdominal pain, urinary retention and constipation. The diagnosis may be missed in some instances. Surgery is the presence of adequate estrogenization avoids the scaring and potential need for a repeat surgery that can occur when surgery is performed on the un-estrogenized hymen and vagina [4,5]. Although these adolescents most adolescents most often than not present as an emergency with acute abdominal pain, this condition clinically should not be managed as an acute emergency [5]. The pelvic anatomy should clearly be defined with the use of an appropriate image technique [4]. The surgery should be planned with the most skilled and experienced gynaecologist to perform the operation as a scheduled rather than an emergency [4,5]. This case report discusses the clinical presentation and management of 14 year old miss GS, who presented with cyclical abdominal pain and absence of menstruation of one year duration physical examination, revealed imperforate abdominal mass of 14 week size and an imperforate hymen she subsequently had a planned hymenotomy done for her.

CASE REPORT

Miss GS a 14 year old secondary school student with cyclical lower abdominal pain and absence of menstruation of one year duration. Examination revealed an 18 week uterine size and an imperforate hymen. She had a cruciate incision in theatre under general anaesthesia with drainage of haematometria and haematocolpos. She was discharged in good clinical state. On Physical examination she had abdomino-pelvic mass equivalent to 18 weeks gestation. Vaginal inspection revealed bulging blue membrane. A mass was palpated on rectal examination and her hymen was intact. A clinical diagnosis of imperforate hymen was made. Investigations requested for were; abdominal/pelvic ultrasound scans which revealed abdomino-pelvic mass of 14 cm by 14 cm, a full blood count of which the haemoglobin concentration and white blood cells were within normal range, electrolyte/urea/creatinine were also within normal range and her urine microscopy/culture/sensitivity yielded no growth after 48 hours. Her managing team was made up of gynaecologists, paediatricians and psychologist. Mother and child were counseled. She had hymenotomy of the imperforate hymen in theatre under regional anaesthesia with subsequent drainage of the haematometra and haematocolpos. She had antibiotics cover and analgesia post-operatively which was uneventful. She was discharged on the first post-operative day in good clinical state. She did well on her follow-up visit with subsequent regular and normal menstrual flow.

DISCUSSION

This case report highlights the presentation and management of Miss GS 14 year old adolescent who had hymenotomy of an imperforate hymen and subsequent drainage of haematometra and haematocolpos. She did well post-operatively and in her subsequent follow-up period. Her management was multidisciplinary involving the gynaecologist, paediatrician, clinical psychologist and paediatric nurses. Our patient misses GS presented with cyclical abdominal pain, haematometra and haematocolpos. The prevalence of imperforate hymen is between 0.014 – 0.1% [1]. The prevalence varies from region to region as revealed by myriads of authors across the globe [1,2]. Apart from the clinical features of our patient highlighted above other clinical presentations of

imperforate hymen are hydrocolpos and mucocolpos coexisting with bladder obstruction diagnosed with prenatal ultra sound [9,11]. Some authorities have revealed rare presentations of imperforate hymen making diagnosis difficult or missed [1,5-8]. Some of these rare clinical features of imperforate hymen are haematosalpinges, intra-abdominal endometriosis, hydroureter, hydronephrosis, renal failure, acute abdominal pain and tenesmus [1,2,8].

The diagnosis of imperforate hymen is made from history, physical examination and investigations. However, in infancy diagnosis is made prenatally by the use ultrasound scan [1,11]. In infancy and early childhood diagnosis of imperforate hymen is often missed [8]. Our patient miss GS, who presented in her early adolescent years with complaints of cyclical abdominal pains and absence of menstruation. Her physical vaginal examination revealed imperforate hymen. This was confirmed with abdominal ultrasound scan which showed the presence of haematocolpos and haematometra. Other investigation which may help in the diagnosis of imperforate hymen are a transrectal or transperineal ultrasound scan [1,7,8]. In addition, vaginoscopy or colposcopy may be instrumental in the diagnosis of imperforate hymen [1,4-8]. The differential diagnosis of imperforate hymen are cribriform hymen, vaginal cyst, acquired labial adhesions obstructing or partially obstructing vaginal septa (longitudinal or transverse), vaginal agenesis (Mayer-Rokitansky-Kuster-Hauser Syndrome) with or without the presence of uterus or functional endometrium and Androgen Insensitivity Syndrome (Testicular Feminization Syndrome) [2,5,9].

Surgery (hymenotomy) is the main treatment modality for imperforate hymen [1,2,8]. However, the timing of the surgery may vary with majority of authorities recommending surgery at puberty when estrogenization is complete [1,2]. our patient miss GS had her hymenotomy at age 14 when she started having cyclical abdominal pain with the presence of haematocolpos and haematometra. One of the draw-backs of performing hymenotomy at infancy and early childhood is that complications of vaginal stenosis and re-accumulation of the haematocolpos and haematometra are uncommon due to incomplete estrogenization at age [1,4]. Other complications that are associated with imperforate hymen post-operatively are infections, pyocolpus, pyometra, endopyometritis, salpingitis, tubo-ovarian abscess, Pelvic Inflammatory Disease (PID), risk of infertility, chronic pelvic pain and ectopic pregnancy [1,2,8]. In addition, other complications that may occur as a result of hymenotomy are injury to adjacent organs such as the urethra, rectum or bladder [3-5,8]. These iatrogenic surgical injuries may occur if the anatomical defect is not well defined clearly especially if there were other congenital anomaly such as vaginal agenesis or mullerian abnormality [2,3]. Our patient miss GS did not have any post-operative complications.

CONFLICT OF INTEREST

None

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