

Neonatally Diagnosed Imperforate Hymen: Hymen Saving Surgery

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Abstract

Imperforate hymen is the most common obstructive anomalies of the female genital tract. It is usually an isolated anomaly but can be rarely syndromic. It can be asymptomatic until puberty, but the diagnosis as early as neonatal period has been reported and as with our neonate with hematocolpos. The aim of this case report is to present the early diagnosis and treatment of a female neonate with imperforate hymen taking into consideration the religious and traditional value of preservation of virginity in our community, and to stress the importance of careful post birth examination of the neonate and early management to avoid complications of late diagnosis.

Keywords

Imperforate hymen; Neonatal hematocolpos; Virginity

Introduction

Imperforate hymen is the commonest obstructive anomalies of the female genital tract, despite that it is rare with an incidence of 0.05% - 0.10%^[1,2]. Imperforate hymen resulted from failure of canalization of the most caudal portion of the vaginal plate at its junction with the urogenital sinus^[2]. Commonly presents at puberty but diagnosis in utero, neonatal, and during childhood has been reported, neonatal diagnosis and treatment is challenging and optimal to prevent symptoms and complications that can occur if diagnosed around puberty^[1-3]. Here we are reporting the management of a female neonate with imperforate hymen taking into consideration the religious and traditional value of preservation of virginity in our community, and to stress the importance of careful early examination and early treatment to avoid complications of late diagnosis.

Case Report

One-month old girl presented to outpatient department by her mother as she observed a bulging bluish swelling through the introitus of the genitalia with no other complaints. On examination she was a healthy baby with normal female external genitalia apart from thin bulging imperforate hymenal membrane with dusky bluish discoloration, which indicated presence of blood collection behind it (Fig. 1). No palpable abdominal mass but on PR examination revealed a tubular mass consistent with distended vagina. Patient planned for drainage under general anesthesia with preservation of hymenal ring in keeping with the religious and traditional value of virginity in Muslim communities. Intraoperatively 18 G needle inserted in the bulging membrane and blood came immediately and after withdrawal of the needle high pressure stream of bloody fluid came out (Fig. 2). Central

incision was done, all collected blood was allowed to drain spontaneously, peripheral suturing of the inner and outer mucosal lining of the incised imperforate hymen was done with 6/0 VICRYL® Rapide suture (Ethicon Inc., Somerville, NJ USA) prevent recurrence with preservation of good hymenal ring (Figs. 3, 4)

Discussion

Congenital anomalies of the female genital tract are rare with reported incidences of 0.05%-0.1%^[1,2] of all newborns, with imperforate hymen as the commonest among them^[5-7]. Obstructive anomalies of the outflow of the genital tract can be in different levels with different presentations according to the age of diagnosis and level of obstruction. Imperforate

hymen has a prevalence of 0.1 % as a sporadic and isolated finding^[8], or rarely associated with Bardet-Biedl or McKusick-Kaufman syndromes but non-syndromic familial occurrence was also reported^[6]. March in a retrospective cohort study demonstrated a bimodal distribution of age at diagnosis, 43% were less than 4 years and 57% were over 10 years^[3]. Other entity of different level of obstruction is the vaginal septum. Upper, middle, or lower vaginal obstruction, it can be thick or thin septum and its usually presents as amenorrhea or pelviabdominal mass or urinary and lower bowel obstructive symptoms^[8]. Complete or partial vaginal atresia is another group of obstructive anomalies and associated with cervical agenesis sometimes considered to be very rare^[9].



Figure 1. Show the dusky blue bulging hymenal membrane.



Figure 2. Show high pressure stream of bloody fluid coming out.



Figure 3. Show the central flap of hymenal membrane removed.

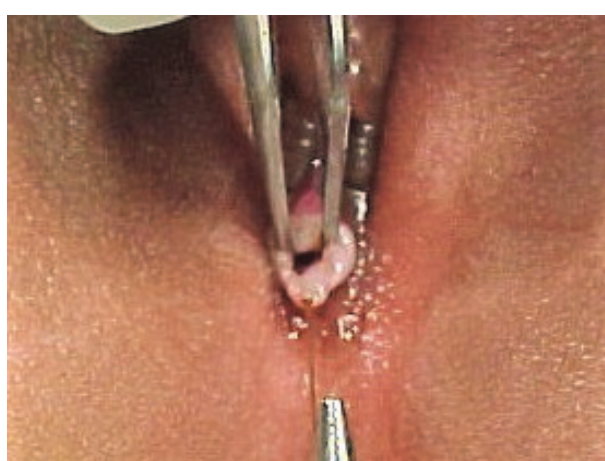


Figure 4. Show the final, peripheral suturing of the inner and outer mucosal lining of the incised imperforate hymen.

In our patient the presentation was early during her neonatal period. The presentation in this age group is variable and frequently asymptomatic below 4 years^[10,11]. Neonates and infants usually presents with hydrometrocolpos as a result of fetal cervical gland secretions of mucoid material in response to maternal hormonal stimulation. Hematocolpos or hematometrocolpos can also occur in infants and neonates like in our patient and that is due to hormonal withdrawal effect after birth. Diagnosis can be by careful genital examination at birth and also by ultrasonography or magnetic resonance imaging. Antenatal diagnosis has been reported before by Adaletti, Ozer, Kuruguglous *et al.* (2007) who reported a 22 weeks female fetus with hydrocolpos due to imperforate hymen and confirmed diagnosis by magnetic resonance imaging^[12].

The current case as seen in Figure 2 the blood comes forcefully after puncture which is a sign of high pressure inside and if neglected, can lead to retrograde bleeding with consequent hemoperitoneum and aseptic peritonitis or pelvic collection^[13], the resulting hematocolpos can lead to lower gastrointestinal or urinary tract obstructive symptoms and missing the diagnosis can occur if no careful examination is performed which can prevent unnecessary laparotomy in this age group^[14].

Despite good and careful examination of external genitalia at birth and due to frequent variation of hymenal anatomy, diagnosis can be missed till menarche. Presentation with variable degree of vaginal and uterine distension depending on time of presentation after starting menstruation with obstructed outflow^[3]. Strong uterine muscles usually do not distend unless diagnosis is late.

Isolated imperforate hymen has a good prognosis with low risk of recurrence^[13]. The treatment of imperforate hymen usually by adequate cruciate incision for proper drainage, but in Islamic and some other similar communities it is important to perform the hymenotomy with preservation of hymenal ring and integrity of virginity which is of great value to the females in the Islamic culture and preservation of good self-esteem and sense of completeness, despite that the function of the hymen is not clear but it is thought to include innate immunity as it provides a physical barrier to infections during the prepubertal period^[1,5].

Conclusion

Imperforate hymen is the commonest obstructive anomaly of the female genital tract, usually isolated and with good prognosis if diagnosed and treated as early as possible as in our neonate with imperforate hymen. Delayed diagnosis until after puberty can lead to symptomatic presentation with different degrees of complication due to obstructive urinary and lower bowl symptoms and genital tract obstruction with endometriosis that result from the retrograde menstruation. Hymen sparing surgical management by preserving a good hymenal ring is the ideal choice of treatment in our Islamic community as the preservation of female virginity is of high religious value and moral value to our females.

Conflict of Interest

The authors have no conflict of interest.

Disclosure

The authors did not receive any type of commercial support either in forms of compensation or financial for this study. The authors have no financial interest in any of the products or devices, or drugs mentioned in this article.

Ethical Approval

Obtained.

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شاء البكارة المسدود المشخص عند الولادة والجراحة بالحفاظ على البكارة

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المستخلص. يعتبر غشاء البكارة المسدود من أكثر أسباب الانسداد الخلقي لمجرى الجهاز التناسلي في الإناث وعادة يحدث منفردا وقد يحدث نادرا بمصاحبة بعض المتلازمات المرضية وقد لا تظهر له أعراض وحتى مرحلة البلوغ ولكن من الممكن تشخيصه عند الولادة كما في الحالة قيد الدراسة والتي شخصت بتجمع دموي مهبلي ونهدف من تقديم تلك الحالة توضيح إمكانية التشخيص والعلاج المبكر لتفادي مضاعفات تاخر المعالجة والتأكيد على ضرورة الحفاظ على عذرية الإناث في المجتمعات الاسلامية وما يشابهها من المجتمعات. والتي تعتبر عذرية المرأة ذات قيمة عليا دينية وأخلاقية ومجتمعية حيث يتم الحفاظ على غشاء البكارة وذلك بإجراء فتح الغشاء في الوسط مع الحفاظ على حلقة الغشاء