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Congenital Imperforate Hymen Presenting as a Neonatal Vaginal Mass with Cultural Barriers in Management: A Case Report from Bouaké University Hospital, Côte d'Ivoire

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Abstract

Introduction: Congenital imperforate hymen is a rare anomaly, often asymptomatic until puberty. We present a case of neonatal diagnosis in which treatment was refused by the parents for cultural reasons. The aim was to describe the main diagnostic, therapeutic and evolutionary aspects of congenital imperforate hymen, highlighting the socio-cultural obstacles to its neonatal management. **Observation:** We report the case of a female newborn referred at birth for a vaginal mass. Pregnancy and delivery were uneventful. Clinical examination led to suspicion of congenital imperforate hymen confirmed by pelvic ultrasound. Hymenotomy was proposed as treatment, but refused by the parents, who perceived the procedure as an attack on the integrity of the hymen and their child's virginity. **Conclusion:** Although rare, hymenal imperforation must be diagnosed early to avoid complications. Pelvic ultrasound is used to confirm the diagnosis. Hymenotomy is the recommended treatment, but socio-cultural beliefs may hinder treatment, underlining the importance of raising awareness among families.

Keywords

Imperforate Hymen, Haematocolpos, Hymenotomy, Socio-Cultural Barriers, Newborn

1. Introduction

Hymenal imperforation is a rare congenital anomaly resulting from the absence

of perforation of the hymenal canal during embryonic development. With an incidence of 0.05% - 0.1% (~1:2000 females) [1] [2], imperforate hymen represents a rare congenital obstruction of the female reproductive tract. It is generally asymptomatic and is often only diagnosed at puberty, when retention of urine and menstrual secretions manifests itself in the form of pelvic pain [3]. In the prenatal period, the diagnosis can be made by obstetric ultrasound, which may reveal signs such as hydrometrocolpos, bilateral hydronephrosis or, in some cases, ascites. In the neonatal period, careful clinical examination remains the main diagnostic tool, although pelvic ultrasound can confirm hydrocolpos [4]. The treatment of choice in African resource-limited settings is conventional cruciate or annular incision hymenectomy [3]. However, management can be complicated in some cultures where the integrity of the hymen is perceived as a symbol of virginity and family honour [5], creating socio-cultural barriers to treatment.

We report a case of hymenal imperforation diagnosed in the neonatal period, the management of which was hampered by socio-cultural barriers. The aim of this case report was to describe the main diagnostic, therapeutic and evolutionary aspects of congenital imperforate hymen, highlighting the socio-cultural barriers to management.

2. Observation

This was a female newborn referred to the neonatology unit of the paediatrics department of the Bouaké University Hospital Centre in the first hour of life for a vaginal mass. The mother underwent 04 antenatal visits and 02 obstetric ultrasounds with no abnormalities. She was group B Rhesus positive. She received 03 doses of anaemia prophylaxis, 02 doses of tetanus prophylaxis, as well as iron and folic acid. No pathology was detected during pregnancy. The delivery took place vaginally, without dystocia, in cephalic presentation, resulting in a newborn weighing 2700 g, 49 cm in length and 32 cm in head circumference. The Apgar scores were 8 and 9 in the first and fifth minutes respectively. The mother was 28 years old, a housewife, and the third gestational age, third pare, with two other apparently healthy children with no visible malformations. The physical examination revealed a newborn with a good general impression, a pink colouration, a heart rate of 146 beats per minute and oxygen saturation of 97% on room air. The neurological examination showed effective sucking, normal tone and the other archaic reflexes were present. On respiratory examination, there were no signs of respiratory distress. Vesicular murmurs were clearly heard, with no other noises. On cardiovascular examination, skin recolouration time was <3 seconds, and heart sounds were clearly perceptible without murmurs. Morphological examination of the external genitalia revealed a rounded, pinkish mass located at the vaginal introitus. This mass was slightly prominent and became more apparent, increasing in volume during crying. It has a smooth texture and is elastic to the touch. It is mobile when palpated. On its surface, there was discrete microvascularisation (**Figure 1** and **Figure 2**). The urethral meatus was visible and the newborn passed

urine during the examination. In view of these signs, the diagnosis of congenital imperforate hymen was suspected. Abdominopelvic ultrasound revealed a haematocolpos (Figure 3) with no urinary or renal abnormalities, confirming the diagnosis. The other complementary examinations carried out, in particular transfontanellar ultrasound and cardiac ultrasound, did not reveal any abnormalities. The father and mother were interviewed about the hymenotomy in order to obtain their consent. Although a detailed discussion was conducted with both parents to explain the hymen's rapid healing capacity, potential pubertal complications (hematocolpos, secondary endometriosis), and the safety of the proposed treatment, they maintained an absolute refusal. They perceived hymenotomy as compromising virginity, which contradicted their cultural values. This refusal resulted in therapeutic abstention. Despite counseling, the patient was lost to follow-up.

Figure 1. Inconspicuous vaginal mass.

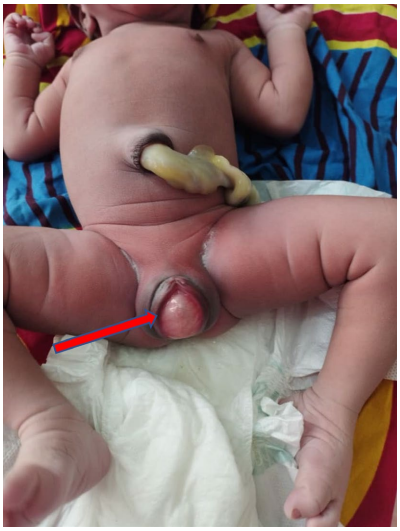

Figure 2. Vaginal mass seen during crying.

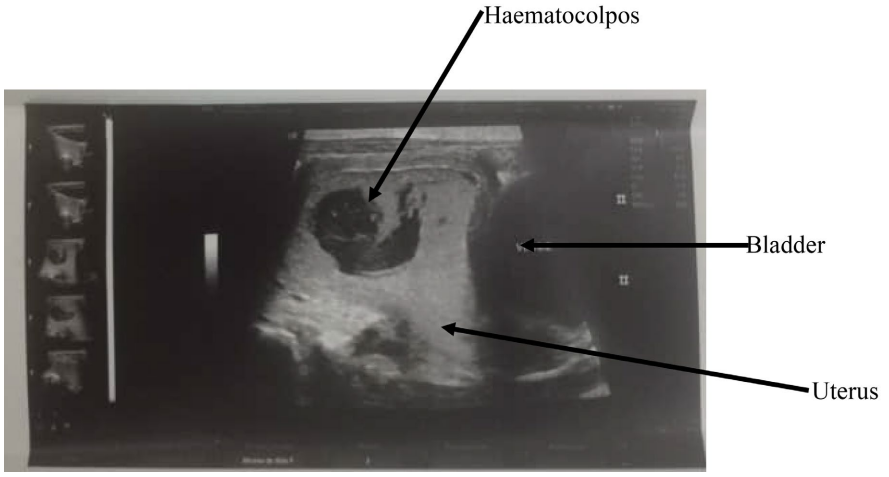

Figure 3. Pelvic ultrasound image showing a large uterus with an echogenic, multicompartmental, intracavitary fluid collection, indicating haematocolposis.

3. Discussion

The aim of this case report was to describe the main diagnostic, therapeutic and evolutionary aspects of congenital imperforate hymen, highlighting the socio-cultural obstacles associated with neonatal management. Congenital imperforate hymen is a rare malformation. Its incidence is estimated at 1 case per 2000 female births [1]. In the literature, some cases of familial occurrence have been reported. However, its incidence is generally sporadic and no genetic marker or mutation has been linked to its cause [2]. Pathophysiologically, this anomaly results from the absence of cleavage of the lamina of endoblastic tissue separating the vagina from the urogenital sinus during organogenesis in the 8th week of gestation. This results in an accumulation of cervical secretions (hydrocolpos) and neonatal pseudomenses behind the imperforate hymen due to maternal estrogen stimulation in utero, leading to hematocolpos [6]. Diagnosis is easy in the delivery room and is based on a meticulous systematic clinical examination. This examination reveals a bulging hymenal membrane during crying, as in this case. Pelvic ultrasound confirms the diagnosis. In some assisted deliveries, where the focus is on the mother, this malformation may go unnoticed. In this case, the diagnosis is made at puberty in light of complications marked by the formation of a haematocolpos due to vaginal retention of the first menstrual periods [3]. The presence of a pelvic mass in a female newborn could also suggest a periurethral cyst, an ectopic ureterocele or a congenital vaginal botryoid sarcoma. However, the identification of the urinary meatus associated with the rounded appearance of the mass made these diagnoses unlikely [7]. In addition, the results of pelvic ultrasound confirmed the diagnosis of congenital imperforate hymen. Treatment options for imperforate hymen include cruciate or annular incision hymenectomy, electrocautery-assisted hymenectomy, 16Fr Foley catheter placement with balloon insufflation to preserve hymenal tissue, and carbon dioxide laser treatment. In African resource-limited settings, conventional cruciate or annular incision hymenectomy remains the most accessible and widely practiced approach [3]. However, as in this case, pa-

rental acceptance of the treatment can be complicated by strong cultural convictions, especially in societies where virginity is an important cultural issue [8]. This refusal highlights the major role of cultural factors in patient management [9]. In medical care, conflicts between cultural expectations and clinical imperatives raise complex ethical dilemmas that professionals must approach with attentiveness, respect, and critical thinking. A deep understanding of the patient's cultural framework, combined with open communication and shared decision-making, helps reconcile individual needs with medical standards. To achieve this, strategies such as intercultural training, the use of mediators, and the adaptation of institutional practices are essential for ethical, humane, and inclusive care [10]. If left untreated, congenital imperforate hymen can remain asymptomatic until puberty. At this stage, it can cause severe pelvic pain and potential complications such as endometriosis or infection. Spontaneous rupture of the hymenal membrane is possible, but very rare [6]. As the timing of spontaneous rupture is unpredictable, it is not advisable to wait for this to occur before treating a symptomatic hymenal imperforation.

4. Conclusion

Congenital imperforate hymen is a rare anomaly, but one that is easily identified at birth by means of a careful clinical examination and pelvic ultrasound. Early diagnosis allows rapid treatment, avoiding potential complications at puberty, such as haematocolposis or endometriosis. Hymenotomy remains the treatment of choice, but its implementation may be hampered by socio-cultural factors, as illustrated in this observation. Parental refusal, motivated by the perception of the integrity of the hymen as a symbol of virginity, underlines the importance of an educational approach and respectful dialogue with families. Increased awareness of the medical implications and the risks of not treating this condition is essential if we are to improve its management in sensitive cultural contexts.

Authors' Contributions

All authors participated intellectually in the preparation and revision of the manuscript prior to submission.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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