



Original Article

Penile Agenesis: Demographic Characteristics and Management Experience in a Tertiary Care Teaching Hospital in Bangladesh

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Abstract

Background: Penile agenesis (aphallia) is an extremely rare congenital urogenital anomaly with an estimated incidence of approximately one in 30 million live births. It results from failure of development of the genital tubercle during embryogenesis leading to complete absence of the penis in a genetically male individual. Due to its rarity, clinical experience and management strategies are limited, particularly in developing countries.

Methods: This retrospective observational study was conducted in the Department of Paediatric Surgery at Bangabandhu Sheikh Mujib Medical University (BSMMU) from January 2010 to December 2019. Medical records of patients diagnosed with penile agenesis were reviewed.

Results: Seven patients were identified during the study period. Age at presentation ranged from 3 months to 6 years. All patients had a 46XY karyotype. Three patients had urethral opening in the perineum. Initial management in all cases consisted of cutaneous vesicostomy.

Conclusion: Penile agenesis requires early diagnosis and multidisciplinary management. Vesicostomy provides effective initial urinary diversion and prevents upper urinary tract complications.

Keywords: Aphallia, Penile agenesis, Vesicostomy, Congenital anomaly

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Introduction:

Congenital anomalies are structural or functional defects present at birth resulting from abnormal embryological development. Penile agenesis (aphallia) is an extremely rare malformation with an estimated incidence of approximately one in 30 million live births¹. The condition was first described by Immenger in 1853 and fewer than 100 cases have been reported worldwide². Penile agenesis results from failure of development of the genital tubercle during the fourth week of gestation⁶.

Affected individuals usually have a normal 46XY karyotype, well-formed scrotum and normally descended testes⁷. Management remains challenging due to both surgical and psychosocial considerations⁸.

This study aims to describe the demographic characteristics and management of penile agenesis treated at a tertiary care teaching hospital in Bangladesh.

Materials and Methods

This retrospective observational study was conducted in the Department of Paediatric Surgery at Bangabandhu Sheikh Mujib Medical University (BSMMU). Study period: January 2010 – December 2019

Inclusion Criteria

All patients diagnosed with penile agenesis during the study period.

Data Collected

- Age at presentation
- Clinical findings
- Karyotype
- Urethral opening location
- Associated anomalies
- Surgical management

Diagnostic evaluation included:

- Ultrasonography
- Voiding cystourethrogram
- Chromosomal analysis⁹

Initial management consisted of cutaneous vesicostomy to ensure adequate urinary drainage¹⁰.

Results

Seven patients were identified during the study period.

Table 1: Demographic and Clinical Characteristics of Patients (n=7)

Variable	Number	Percentage
Total patients	7	100%
Age <1 year	2	28.6%
Age 1–3 years	3	42.9%
Age >3 years	2	28.6%
46XY karyotype	7	100%
Perineal urethral opening	3	42.9%
Associated anomalies	0	0%
Vesicostomy performed	7	100%

All patients had normal male karyotype (46XY) with normally developed scrotum. Three patients presented with perineal urethral opening, consistent with post-sphinctericaphallia according to Skoog classification¹¹. Initial management consisted of cutaneous vesicostomy in all patients.

Discussion

Penile agenesis is a rare congenital anomaly characterized by the absence of the penis in a genetically male individual¹. The condition must be differentiated from other anomalies such as micropenis, severe hypospadias, epispadias, and concealed penis¹². Previous studies reported small case series due to the rarity of the condition. Reports from different countries documented limited numbers of cases^{13–15}. Approximately

half of patients with aphallia may have associated anomalies involving urinary or gastrointestinal systems¹⁶. However, no associated anomalies were detected in the present study. According to Skoog and Belman classification, aphallia can be divided into, Post-sphincteric type, Pre-sphincteric type, Urethral atresia with vesicorectal fistula¹¹. Initial management focuses on establishing urinary drainage to prevent renal complications¹⁷. Cutaneous vesicostomy is a safe and effective temporary diversion procedure. Long-term management requires multidisciplinary care including reconstructive surgery and psychosocial counseling¹⁸.

Figure 1: Clinical Appearance of Penile Agenesis with Perineal Urethral Opening

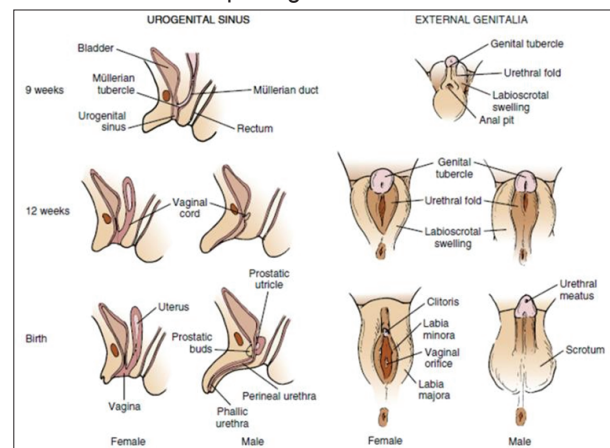


Figure legend:

Clinical and schematic illustration showing complete absence of the penis with urethral opening located in the perineum, characteristic of post-sphinctericaphallia.

Conclusion

Penile agenesis is an extremely rare congenital anomaly requiring early diagnosis and careful multidisciplinary management. Cutaneous vesicostomy provides effective initial urinary diversion and prevents upper urinary tract complications. Long-term reconstructive planning and psychosocial support are essential for optimal patient outcomes.

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