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Case Report

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Urachal cyst: A case observed at Saint Martin de Papane zone hospital in Benin

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Abstract

Urachal pathology, although rare, requires recognition by urologists due to its implications for patient care. The urachus, a fibrous remnant of the allantois, typically obliterates after birth but may persist as a cyst, fistula, sinus, or diverticulum. This case report highlights the management of an umbilicovesical fistula in a nine-month-old infant at Saint Martin de Papane Zone Hospital in Benin.

Keywords: Urachus, Pathologies, Cyst.

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INTRODUCTION

The urachus is an embryonic remnant derived from the allantois, presenting as a fibrous cord that connects the bladder dome to the umbilicus. Urachal pathology is uncommon, with an incidence of 1 in 5000 births [1]. Despite its rarity, awareness is essential, as untreated conditions carry risks such as infection and malignancy [2,3]. These anomalies include urachal cysts, sinuses, diverticula, and fistulas. The intermediate form, or "swing sinus," adds to the complexity, draining alternately into the bladder or externally [4]. Diagnosis typically occurs in children or adolescents but may be delayed into adulthood, presenting diagnostic challenges [5].

This report documents a case of urachal cyst in an infant, emphasizing the need for prompt diagnosis and treatment. A review of the literature is included to contextualize the clinical and embryological understanding of urachal pathologies.

CASE REPORT

A nine-month-old male infant with no significant medical history was brought by his parents to the surgery department of Saint Martin de Papane Zone Hospital in Benin due to intermittent urine discharge from the umbilicus since birth. Upon inquiry, the parents reported normal urination through the urethral meatus. Urine leakage had been present since birth, following the detachment of the umbilical cord stump, and had prompted several consultations at other healthcare centers. The absence of a proper diagnosis and treatment led them to seek care at our facility.

The infant was born vaginally after a full-term singleton pregnancy, with an Apgar score of 10/10/10. There was no reported family history of disease or parental consanguinity. On physical examination, the patient's general condition was compromised due to malnutrition, with a weight of 7.5 kg, a height of 70 cm, and a BMI of 15.5. A palpable umbilical mass measuring 6 cm in diameter was observed (Figure 1), and the umbilicus appeared dry. No other malformations were identified.

Preoperative evaluations revealed results within normal ranges. However, due to financial constraints, no imaging studies were performed. A 5 cm arcuate infraumbilical incision was made, and subaponeurotic dissection was conducted to expose and completely excise the cyst along with its fibrous attachment to the bladder (Figure 2).

The bladder wall was sutured in two layers, and a urethral catheter was placed to remain in situ for 10 days. The aponeurosis and skin were sutured, and a dry dressing was applied. Postoperatively, the patient was treated with Amoxicillin + Clavulanic acid (375 mg every 12 hours) and Nifluril suppositories for children. No histological examination of the excised cyst was performed.

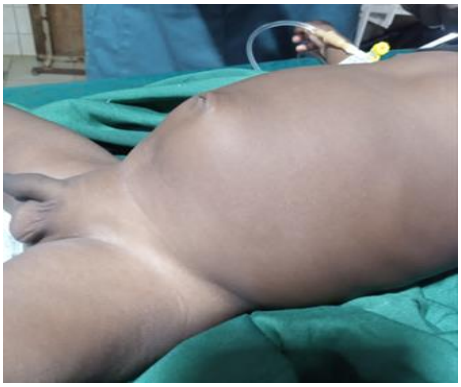

Figure 1: A 6 cm umbilical mass

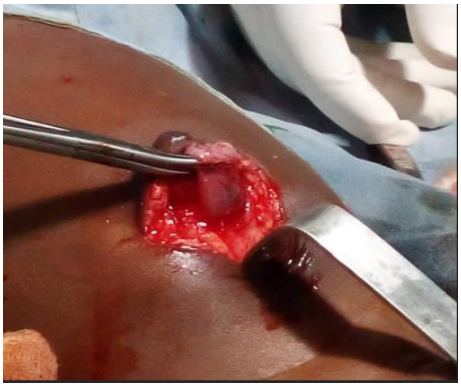

Figure 2: Urachal cyst: Dissection

DISCUSSION

The urachus is a median extraperitoneal structure that traverses the preperitoneal subaponeurotic plane, playing a significant role during embryonic development. Congenital anomalies, such as urachal cysts and fistulas, arise when the urachus fails to obliterate completely, leading to structural remnants that may result in clinical complications [6]. These anomalies, though rare, necessitate proper understanding and management to avoid potential diagnostic and therapeutic delays. Their rarity, coupled with subtle clinical presentations, often makes their diagnosis challenging and underscores the need for increased awareness among clinicians.

Limited financial resources often hinder the ability to conduct comprehensive diagnostic imaging, which is crucial in identifying and characterizing urachal anomalies. In this particular case, the absence of imaging studies may have delayed the diagnosis and influenced clinical decisions. Diagnostic modalities such as ultrasonography and fistulography play a pivotal role in confirming the presence of urachal anomalies. Ultrasonography is particularly valuable for its non-invasive nature and its ability to detect abnormalities, such as cysts or fistulas, with a high degree of accuracy [7]. Fistulography, on the other hand, provides detailed imaging of the fistulous tract, ensuring precise identification of the anomaly [7]. Unfortunately, in resource-limited settings, such diagnostic tools are often unavailable, leaving clinicians to rely on clinical signs and physical examinations, which may not always yield definitive conclusions.

The absence of histological examination in this case highlights a critical limitation in the management of urachal anomalies. Histopathological analysis is essential to exclude the possibility of malignant transformation and to ensure comprehensive patient care. Although malignancy arising from urachal remnants is rare, the risk remains significant enough to warrant thorough evaluation [8,9]. Neglecting histological examination may leave undetected malignancies that could have severe implications for the patient's 2019s long-term health. This underscores the importance of implementing routine histopathological assessments, even in resource-constrained settings, to improve patient outcomes and mitigate risks.

Analyzing this case in comparison to others from different regions reveals notable disparities in the availability of resources and management strategies. In more resource-equipped settings, the availability of advanced diagnostic tools and comprehensive follow-up programs allows for earlier detection and better management of urachal anomalies. Long-term follow-up, including regular monitoring for recurrence or complications, is critical to ensuring favorable outcomes. Literature suggests that complete surgical excision of urachal remnants

significantly reduces the risk of recurrence and associated complications [10], further emphasizing the importance of timely intervention and post-treatment vigilance.

Radical surgical excision remains the gold standard for the management of urachal anomalies, ensuring complete removal of the pathological tissue and reducing the risk of recurrence or infection. Recent advancements in laparoscopic techniques have made this procedure less invasive, offering benefits such as reduced blood loss, quicker recovery, and better cosmetic outcomes [11]. However, in this case, a traditional open surgical approach was employed due to resource limitations. Despite these constraints, the procedure yielded successful outcomes, with no postoperative complications reported. This highlights the adaptability of traditional surgical methods in resource-limited settings while reinforcing the need for equitable access to advanced surgical technologies.

CONCLUSION

Urachal pathologies, though rare, demand prompt diagnosis and surgical management. Financial constraints and limited access to diagnostic tools remain significant challenges in resource-constrained settings. Comprehensive care, including histopathological analysis and long-term follow-up, is essential to optimize outcomes.

Conflict of Interest

The authors declare no conflicts of interest.

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