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Clinical case

Seminal vesicle cyst. Case report

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SUMMARY

Seminal vesicle cysts are a congenital urological anomaly. They are present from birth but become symptomatic during the second and third decades of life. A 5-year-old male patient presented with mild lower abdominal pain that occasionally worsened with defecation. An ultrasound was performed, revealing a rounded, echolucent image with well-defined walls consistent with a seminal vesicle cyst. The treatment plan was puncture and aspiration drainage of the lesion. Computed tomography (CT) is the gold standard imaging technique. Benign seminal vesicle tumors are extremely rare in childhood. They can go unnoticed due to the few symptoms they present. Treatment strategies have focused on laparoscopic surgical excision as the best option.

Keywords: Seminal vesicle; Cyst; Puncture and drainage.

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ABSTRACT

Seminal vesicle cysts are a congenital urological anomaly. They are present from birth but become symptomatic during the second and third decades of life. A 5-year-old male patient presented with mild lower abdominal (hypogastric) pain, which occasionally increased during defecation. An ultrasound was performed, revealing an anechoic, rounded image with well-defined walls consistent with a seminal vesicle cyst. The chosen therapeutic approach was puncture and aspiration drainage of the lesion. Regarding imaging techniques, the gold standard is Computed Tomography (CT) scan. Benign seminal vesicle tumors are extremely rare in childhood and may go unnoticed due to the mild symptoms. Treatment strategies have focused on surgical removal via laparoscopy as the best option.

Keywords: Seminal vesicle; Cyst; Puncture and drainage.

SUMMARY

The seminal vesicle cysts constitute a congenital urological anomaly. They are present from birth, but become symptomatic during the second and third decades of life. Male patient, 5 years old, presenting mild abdominal pain in the hypogastric region, which occasionally intensifies during evacuation. Ultrasonography was performed, in which an anechoic, rounded image with well-defined walls was observed, compatible with the seminal vesicle cyst. Optou-se by puncture and aspiration drainage of the lesion as therapeutic behavior. In relation to imaging techniques, the padrão-ouro is the study with Computed Tomography (CT). Benign tumors of the seminal vesicles are extremely rare in childhood and can go undetected due to few symptoms. Treatment strategies focus on surgical removal by laparoscopy as the best option.

Key words: seminal vesicle; Cystus; Puncture and drain.

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Introduction

Seminal vesicle cysts are rare benign tumors; only small case series have been published in the scientific literature. The seminal vesicles are two sac-like, androgen-dependent structures located between the bladder and the rectum, which develop at puberty and release seminal fluid during ejaculation. (1,2)

Seminal vesicle cysts constitute a congenital urological anomaly, which, together with Müllerian duct cysts, prostatic utricle cysts, cystic dilatations of the ejaculatory duct, ampulla of the vas deferens, and prostatic cysts, form part of what are known as deep pelvic cysts. (3)

They are present from birth, but become symptomatic during the second and third decades of life, possibly because this is the period of greatest sexual activity (when seminal fluid accumulates in the seminal vesicles as a result of incomplete drainage due to stenosis or compression of the ejaculatory ducts). They can occur in isolation or in association with anomalies of the genital tract or upper urinary tract or kidneys, such as autosomal dominant polycystic kidney disease, renal agenesis, or renal dysplasia. They are generally discovered incidentally and often cause intestinal or bladder obstruction due to compression, such as constipation, pain during defecation, dysuria, or urinary urgency. (4,5)

Due to the scarcity of reported cases in the country on this topic, the objective of this article is to present the experience in a pediatric case not found in the current literature, since it is not a frequently diagnosed pathology in childhood.

Clinical case

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A 5-year-old male patient with a history of surgery at 6 months of age for a Wilms tumor, for which a right nephrectomy was performed, presented for a follow-up appointment. His family reported that he had been experiencing mild abdominal pain in the hypogastric region for the past two months, which occasionally worsened with defecation. Physical examination of the genitals revealed a hypospadiasic urethral meatus with a dorsal preputial hood.

An ultrasound was performed, revealing a 32 x 29 mm, rounded, echolucent image with well-defined, regular walls in the hypogastric projection, located in contact with the posterior wall on the left side, suggestive of a seminal vesicle cyst. A computed tomography scan demonstrated the absence of the right renal unit due to a previous nephrectomy. A hypodense image with well-defined, rounded walls was observed against the left posterior wall of the bladder (Figure 1), which did not enhance with contrast, consistent with a cyst at the level of the left seminal vesicle, ranging from 5-13 HU (Figures 2 and 3). The treatment plan involved puncture and aspiration drainage of the lesion. The patient remains under follow-up, and to date, no recurrence has been observed.

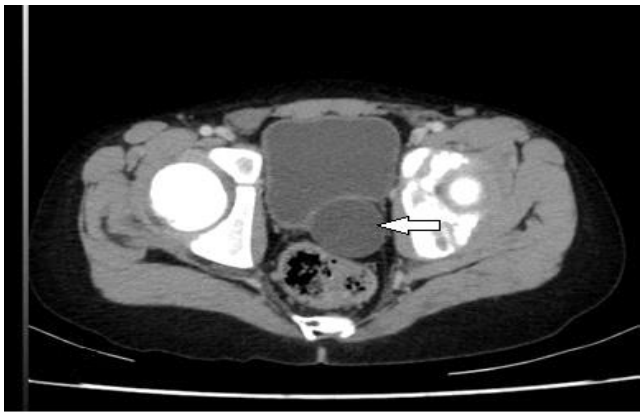

Fig. 1. Simple computed tomography axial slice showing the hypodense image with a cystic appearance on the posterior surface of the bladder towards its left side.

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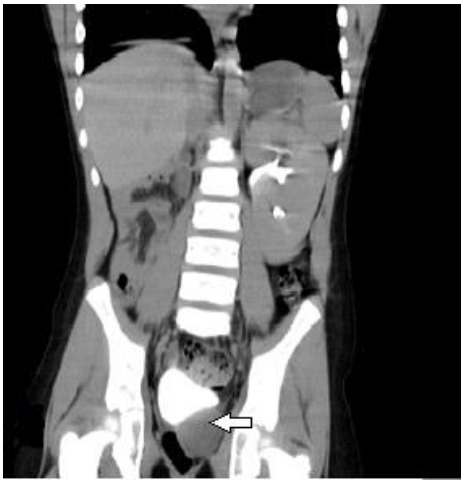

Fig. 2. Contrast-enhanced coronal section tomography showing a hypodense image that does not enhance with the contrast agent used.

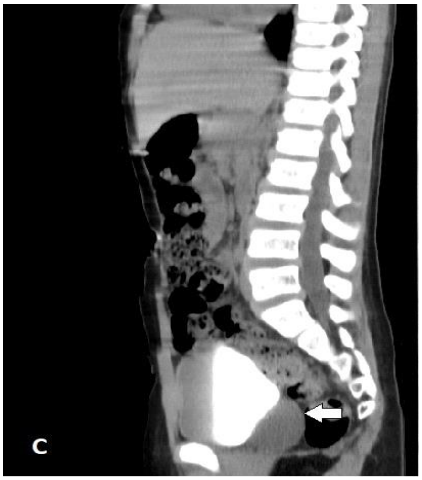

Fig. 3. Contrast-enhanced tomography, sagittal view, showing the image described above on the posterior surface of the bladder.

Discussion

The most frequent symptoms correspond to lower obstructive uropathy, mainly those related to bladder filling (dysuria, frequency) and obstructive symptoms, with or without

macrohematuria or hemospermia in adults. (2)

Palomino, in his study, agrees with several authors that the primary pathology is infrequent, but that recent advances in imaging have increased its detection. (3) It is of utmost importance to suspect and investigate the possible existence of other associated congenital anomalies, primarily urinary, genital, vascular, and bone anomalies. (1,6) No relationship has been found between the seminal vesicle cyst and a history of Wilms tumor; this is not evident in the literature, but a relationship has been found in genital anomalies such as the hypospadias presented by the patient.

Regarding imaging techniques, the gold standard is computed tomography or magnetic resonance imaging, in which the most characteristic finding is an increase in the size of the seminal vesicles. Excretory urography and cystourethrography have limited utility and provide indirect information, while cystoscopy determines the absence of the ipsilateral ureteral orifice and/or hemitrigone. (2,6-8)

Valenzuela et al. state that the current treatment of choice is surgical resection, which will depend on imaging findings and transrectal biopsy (2,7,9). This procedure was not performed in the present case due to the patient's age and, primarily, the family's decision regarding open surgery. Most authors report endoscopic success with symptom regression, but most of these reports are in young adults, unrelated to the present study. Currently, laparoscopic surgery offers a new, less invasive alternative for the excision of these lesions. (7,9)

Conclusions

Benign tumors of the seminal vesicles are extremely rare in childhood. They can go unnoticed due to the few symptoms they present. Treatment strategies have focused on laparoscopic surgical excision as the best option. Aspiration of the cystic lesion for therapeutic drainage is not indicated due to its high recurrence rate.

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Bibliographic references

1. Andrade V, Pina J, Calais F, Campos Pinheiro L. Seminal Vesicle Calculi as a Cause of Hematospermia and Ejaculatory Pain: A Case Report. Cureus [Internet]. 2023 [cited 06/12/2025]; 15(7): e42547. Available in:https://pmc.ncbi.nlm.nih.gov/articles/PMC10460135/pdf/cureus-0015-00000042547.pdf.

2. Valenzuela Grau R, Kerkebe M, Farias J, Gomez L. Laparoscopic resolution of seminal vesicle tumors: presentation of 2 cases and review of the literature. Rev Chilena Urol [Internet]. 2018 [cited 2025 Mar 3]; 83(3): 27-30. Available from:https://revistasacademicas.cl/Upload/ArticulosPdf/schu_20210906095456_15a7774d-463d-4a58-a56e-3a4265ac28ba.pdf.

3. Palomino García DM, Núñez Guevara DS, Rodríguez Jiménez A. Uncommon pathology of seminal vesicle cysts. December 2 [Internet]. 2018 [cited 2025 Mar 3]; 1(1): 57-62. Available from:https://revdosdic.sld.cu/index.php/revdosdic/article/view/8.

4. Lainé-Caroff P, Meria P, Bruyere F, Giwerc A. Pathology of the seminal vesicles. EMC Urology [Internet]. 2021 [cited 2025 Mar 3]; 53(4):1-9. Available from:https://doi.org/10.1016/S1761-3310(21)45730-0.

5. Palacios-Rosas E, Torres-Razo A, Enríquez-González EA. Systematic review of Zinner's syndrome. Revista Mexicana de Urología [Internet]. 2024 [cited 2025 Mar 8]; 84(1): e04. Available from:https://www.scielo.org.mx/scielo.php?script=sci_arttext "http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S2007-40852024000100004&lng=es"lng=es.

6. Arteche Arnaiz I, Urresola Olabarrieta A, Ezquerro Imas AI, Larburu Zabala S, Prada San Martin L, García Balaguer S, et al. Pathology of the seminal vesicles and review of cases from our center. Seram [Internet]. 2024 [cited /03/2025]; 1(1).Available

at:https://www.piper.espacio-seram.com/index.php/seram/article/view/10169.

7. Gu Z, Sun L, Zhang W, Geng J, Jiang L, Chen Y. Surgical treatment of giant seminal vesicle cyst with ureteral compression: a case report. Front Surg [Internet]. 2025 [cited 03/03/2025]; 12: 1503368. Available at: https://pmc.ncbi.nlm.nih.gov/articles/PMC11911343/pdf/fsurg-12-1503368.pdf.

8. Skandhan A, Knipe H, El-Feky M. Seminal vesicle cyst. Reference article. Radiopaedia.org [Internet]. 2025 [cited 03/10/2025]. Available in: https://radiopaedia.org/articles/seminal-vesicle-cyst-1?lang=us.

9. Gupta V, Khan RK, Kumar LP. Zinner syndrome: A mesonephric duct anomaly with renal agenesis, ipsilateral seminal vesicle cyst, and ejaculatory duct obstruction. Med J Armed Forces India[Internet]. 2024 [cited 03/10/2025]; 80(Suppl 1): S238-S42.Available at: https://doi.org/10.1016/j.mjafi.2022.05.012.

Conflict of interest

The authors declare no conflicts of interest.

Authorship contribution

Conceptualization, data curation and formal analysis: Yadira Matilla Villegas, Yosvani Aguila Rodríguez.

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Methodology: Yosvani Aguila Rodríguez, Leonides Pernia Plana.

Supervision and validation: Yadira Matilla Villegas, Leonides Pernia Plana.

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Original draft: Yadira Matilla Villegas.

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