

## Giant Epididymal Cyst in the Right Testicle: Case Report and Literature Review

Jairo David Villanueva Pinelo<sup>1</sup>, Alexis Emir Noguera Echeverría<sup>1</sup>, María Fernanda Ibarra Guerrero<sup>2</sup>, José Manuel Michel Ramírez<sup>3</sup>, Jorge Francisco Martínez Hernández<sup>4</sup>, Alejandra Soledad Alamilla López<sup>5</sup>, María Jocelyn Chan Chan<sup>6</sup>, José Antonio Arjona León<sup>7</sup>, Sergio Miguel Polanco Zapata<sup>8</sup>, Michel Ernesto Herrera González<sup>9</sup>, Gerardo Bracamontes Patiño<sup>9</sup>, Romina Solís Hernández<sup>10</sup>, Minerva Jiménez Reyes<sup>10</sup>, Daniel Guitérrez Huezos<sup>8</sup>, Pablo Roger Herrera Salazar<sup>8</sup>, Francisco Javier Martín Interián<sup>8</sup>, Jesús Omar Chan Dorantes<sup>11</sup>, Astrid Arlen Gallegos Becerra<sup>12</sup>, Dionei Josimar Ucán Gamboa<sup>1</sup>, Leonardo Jiménez Reyes<sup>13</sup>

<sup>1</sup>Surgery Resident. Clínica Hospital Mérida, ISSSTE. Facultad de Medicina de la Universidad Autónoma de Yucatán.

<sup>2</sup>Pediatrics Resident. Clínica Hospital Mérida, ISSSTE. Facultad de Medicina de la Universidad Autónoma de Yucatán.

<sup>3</sup>Urologist. Centro Médico "Lic. Adolfo López Mateos", ISEM. Facultad de Medicina de la Universidad Autónoma del Estado de México.

<sup>4</sup>Urology Resident. Hospital Regional "Valentín Gómez Farías", ISSSTE. Universidad de Guadalajara.

<sup>5</sup>Social Service MD Intern, Facultad de Medicina de la Universidad Autónoma de Yucatán.

<sup>6</sup>Medical Social Intern. Universidad Anáhuac Mayab.

<sup>7</sup>Family Medicine Doctor. Universidad Autónoma de Yucatán.

<sup>8</sup>MD. Universidad Anáhuac Mayab.

<sup>9</sup>Surgery Resident. Hospital General "Dr. Agustín O'Horán", Secretaría de Salud. Facultad de Medicina de la Universidad Autónoma de Yucatán.

<sup>10</sup>Medical Intern. Universidad Anáhuac Mayab.

<sup>11</sup>Emergency Medicine Resident. Hospital General Regional "Licenciado Ignacio García Téllez", IMSS. Facultad de Medicina de la Universidad Autónoma de Yucatán.

<sup>12</sup>Anesthesiology Resident. Hospital General Zona 14, IMSS. Facultad de Medicina de la Universidad de Guadalajara.

<sup>13</sup>Medical Student. Universidad Anáhuac Mayab.

### ABSTRACT

**Introduction:** Cystic intratesticular lesions can occur in the second and fourth decades of life and are typically identified via ultrasound. Testicular cysts, usually under 2 cm, result from epididymal-lymphatic obstruction or hormonal changes. Larger lesions with sperm and lymphocytes are spermatocoeles. Epididymal cysts are asymptomatic but can cause discomfort or pain, sometimes requiring surgery.

**Clinical case:** A 38-year-old male with no chronic diseases presented with a giant tumor in the right testicle, experiencing pain and hypersensitivity. Physical examination and ultrasound revealed an irregular, painful testicular tumor and a right epididymal cyst. A right epididymal tumor excision was performed successfully.

**Discussion:** Testicular cysts are benign and represent 20-40% of benign testicular tumors. They may arise due to idiopathic, infectious, or traumatic causes with no established risk factors. Diagnosis is often incidental and involves physical examination and imaging techniques like ultrasound. Management is conservative for asymptomatic cases, while symptomatic cases may require surgical intervention that involves careful separation of the cyst from the adhered area.

**Conclusion:** An epididymal cyst is a common pathology in males worldwide, occupying up to 40% of the masses in the testes at the time of a urological assessment. It is a collection at the testicular level of hyaline content and usually measures < 2 cm. They are generally asymptomatic, but when their size exceeds 2 cm or causes symptomatology, it is important to

### ARTICLE DETAILS

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**KEYWORDS:** Cystic intratesticular lesions, testicular cyst, epididymal cyst, surgery.

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### INTRODUCTION

The cystic intratesticular lesions may occur in the second and fourth decade of life, their strain is usually benign by 40% and can generally be identified incidentally in an ultrasound examination by 8-10%.<sup>(1)</sup>

The testicular cyst is defined as a collection of hyaline fluid surrounding the tunica albuginea and usually has an approximate size < 2 cm, produced by an obstruction of the epididymal-lymphatic conduct, as well as hormonal alterations that could promote the accumulation in these structures.<sup>(2)</sup> When the lesion is located at the epididymis head and has sperm, lymphocytes, and a size exceeding 2 cm, it is referred to as spermatoceles.<sup>(2)</sup>

The simple epididymal cyst tends to be above and behind the testicle, and the testicular component can be palpated separately. The epididymal lesion is perceived as "lobulate" with a positive transillumination test. On the other hand, epididymitis cysts containing a milky opalescent liquid are called spermatoceles and do not have transillumination.<sup>(3)</sup>

Many theories explain the origin of benign intratesticular cystic disease, including prenatal exposure to chemicals such as diethylstilbestrol, cannabis, or embryological alterations during testicular formation, as well as Wolff duct level.<sup>(4)</sup>

Other related genetic diseases that stand out include Von Hippel Lindau disease, renal polycystic disease, and cryptorchidism. However, a predominant etiological component is not yet determined.<sup>(4)</sup>

Epididymal cysts generally have an asymptomatic course. However, there have been reported cases where they cause discomfort, testicular pain related to physical activity, dysuria, discomfort in the perineal region, and have even been associated with other diseases such as testicular torsion due to the volume of the collection, requiring urgent surgical resolution.<sup>(5)</sup>

### CLINICAL CASE

A 38-year-old male patient Mexican, without chronic diseases, with a surgical history of tonsillectomy at ten years old and elective vasectomy at 29 years old. As a family history of importance, the paternal grandfather died of penile cancer, and the father died of testicular cancer. The patient visited the urologist due to a large tumor in her right testicle, accompanied by pain upon palpation and increased sensitivity in the perineal area.

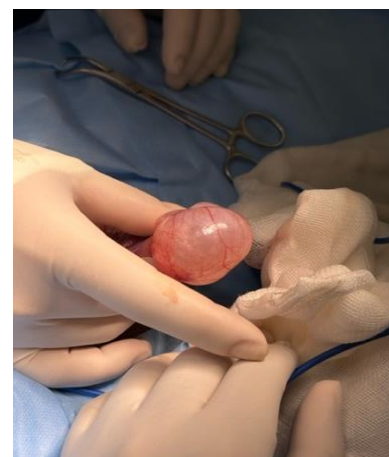
He reported the onset of clinical symptoms at age 15, with a hardened, spherical, and mobile mass of approximately 2x2 mm in the right testicle and progressive increase in size as well as hypersensitivity in the right testicular region,

apparently related to a vasectomy at age 29, reaching a current size of approximately 5 cm. He reported pain in the perineal region and symptoms of urinary irritation as an alteration in intermittency, frequency, and presence of a micturition urgency.

Physical examination identified an irregular right testicular tumor, painful to palpation, immobile, on the lower pole, and approximately 5 cm in diameter, with a positive transillumination test.

An ultrasound was performed, revealing a scrotal bag of normal thickness and echogenicity inside both testicles were located. In the head of the right epididymis, an image of ovoid morphology, thin wall, non-septate, and avascular anechoic content was observed, with dimensions of 42x30x42 mm and a volume of 26.8 ml, which partially displaced and compressed the right testicle, this without evidence of focal or diffuse lesions, measuring 39x20x29 mm, with the vascularity preserved. The epididymis was identified as having a thickening of up to 7.6 mm at the body and tail, with heterogeneous characteristics, with small anechoic and avascular areas inside.

Due to the symptomatology, we programmed a right epididymal tumor excision and performed the procedure without complications, finding a right epididymal cyst of approximately 5 cm in diameter (images 1-3).



**Image 1. Epididymal cyst 5 cm in diameter.**

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**Image 2. Epididymal cyst attached to the right testicle.**



**Image 3. Epididymal cyst completely resected from the right testicle.**

Given the patient's satisfactory recovery, he was discharged 3 hours after surgery, with a follow-up scheduled.

### DISCUSSION

The testicular cyst is a benign pathology of the testis that occurs frequently from the second to fourth decade of life.<sup>6</sup> Representing approximately 20-40% of benign testicular tumors worldwide.<sup>1</sup> It is known to occur in childhood due to a vaginal process with permeable capacity, but usually resolves spontaneously and does not cause symptoms.<sup>7</sup> Simple cysts are usually < 2 cm, and their content is usually serous liquid, however, when they exceed this size, they are called spermatoceles, whose content is of sperm, Lymphocytes, and cell remains.<sup>6</sup> Spermatocele is usually located mostly in the head of the epididymis, unlike simple cysts, where they can have a location in other portions of the testicle; however, only microscopic study helps to differentiate them.<sup>1</sup>

Regarding its pathophysiology, a blockage or decrease in flow is known at the level of the seminiferous tubules, testicular network, or deferent ducts.<sup>4</sup> The origin may be idiopathic, infectious, or traumatic, with a homogeneous accumulation of content, mainly seminal fluid or semen if it is the case.<sup>1</sup> Lesions may be single, multiple, unilateral, or bilateral, with no preference for a particular testicle.<sup>1</sup>

Multiple theories can explain the etiology of simple epididymal cysts. However, there is no established risk factor highlighting prenatal life exposure to cannabis, diethylstilbestrol, and phytoestrogens.<sup>6</sup> In the embryonic stage, testicular formation plays an important role in the fourth week of intrauterine formation since the formation of the testicular crest at week 12, when the descent of the testes into the scrotal sac occurs with degeneration and obstruction of the epididymal ducts, highlighting pathologies such as Von Hippel Landau syndrome, cryptorchidism, polycystic kidney disease, and cystic fibrosis.<sup>8</sup>

There have been cases in which men from the fourth to fifth decade of life, when performing some elective or emergency surgical instrumentation in the testicular region, develop cysts up to 35% with associated symptomatology, most likely caused by distal obstruction of the red testis.<sup>9</sup>

The diagnosis is mainly accidental in 50% of cases when the patient goes to a urological consultation on physical examination there is an increase in testicular volume, induration, and impairment of quality of life; for screening, physical examination with translucence, high-resolution ultrasound (5-10 MHz), and in case of a familiar history of testicular cancer the obtaining of tumor markers, NMR, and fine needle biopsy to rule out lesions such as epidermoid cysts or some neoplastic process.<sup>6</sup> The ultrasound findings report anechoic lesions, with defined edges, and absence of vascularity in the cystic lesion (except normal testicular vessels).<sup>10</sup>

Tumor markers are negative, and in the case of NMR, there should be no activated ganglion chain.<sup>6</sup>

Its management, mainly in asymptomatic lesions, is conservative; however, patients who have symptoms associated with discomfort, testicular pain, discomfort to physical activity, and sensation of testicular fullness or size > 2 cm require surgical cystectomy, puncture-aspiration, or sclerotherapy.<sup>7</sup>

The basic principle of cystectomy consists of careful separation of the cyst to the area adhered.<sup>11</sup> In case of head or body injury to the epididymis, the application of separate single points to fix the tissue to the testicle is suggested.<sup>11</sup>

### CONCLUSION.

An epididymal cyst is a common pathology in males worldwide, occupying up to 40% of the masses in the testes at the time of a urological assessment. It is a collection at the testicular level of hyaline content and usually measures < 2 cm. They are generally asymptomatic, but when their size exceeds 2 cm or causes symptomatology, it is important to

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### CONFLICT OF INTERESTS.

The authors declare no conflict of interest.

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