

International Journal of Health, Medicine and Nursing Practice

(IJHMNP) Fibrothecoma of the Right Testis in a 44-year-old at
the Tamale Teaching Hospital, Ghana: A Case Report.



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Fibrothecoma of the Right Testis in a 44-year-old at the Tamale Teaching Hospital, Ghana: A Case Report.

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Abstract

Purpose: Fibrothecomas, a subset of sex cord-stromal tumors, represent 4-5% of all gonadal neoplasms and are typically benign. These tumors predominantly affect the ovaries in post-menopausal women but have also been reported in the testes. Testicular fibrothecomas are rare, presenting as painless masses and often discovered incidentally. Their diagnosis requires a multidisciplinary approach due to their nonspecific clinical presentation and rarity.

Methodology: We present a case of a 44-year-old man with chronic kidney disease who developed a progressively increasing, painful right scrotal swelling over six months. Upon examination, a firm, non-tender mass was found in the right testis. Diagnostic assessments revealed normal blood counts, significant renal impairment, and tumor markers suggestive of a non-seminomatous germ cell tumor. Ultrasound indicated a right testicular tumor with hydrocele. A right radical inguinal orchiectomy was performed successfully, and histopathology confirmed a fibrothecoma of the right testis.

Findings: This case underscores the rarity and clinical significance of testicular fibrothecomas. These tumors are characterized histologically by spindle-shaped cells in storiform or fascicular patterns with variable collagen. Immunohistochemically, they are positive for inhibin, Melan-A, and SMA. Similar cases reported in the literature share characteristics with our case in terms of patient age, diagnostic findings, treatment methods, and outcomes. The benign nature of fibrothecomas suggests that a testis-sparing surgical approach could be considered to preserve testicular function in suitable cases.

Unique Contribution to Theory, Policy and Practice: Testicular fibrothecoma is a rare benign tumor that requires careful diagnostic evaluation for accurate diagnosis and treatment. This case highlights the importance of considering testicular tumors in differential diagnoses of scrotal swellings, particularly in patients with chronic medical conditions. Early diagnosis and appropriate surgical intervention are crucial for optimal outcomes. The rarity of these tumors emphasizes the need for thorough reporting to enhance understanding and management strategies.

Keywords: *Testicular Fibrothecoma, Sex Cord-Stromal Tumor, Testicular Neoplasm, Orchiectomy, Histopathology*

1.0 Introduction

Fibrothecomas belong to sex cord-stromal tumors that represent 4-5% of all gonadal neoplasms (Obeidat, Aleshawi, Obeidat, & Al Bashir, 2019). Fibrothecomas, typically benign tumors comprised of fibrous and thecal cell elements, primarily manifest within the female reproductive system, notably in the ovaries, where they are common in post-menopausal women after age 60 and usually present as hormonally active benign ovarian masses (Alkhamees, Abumelha, Mansi, & Al Oudah, 2020). However, their occurrence within male gonads, particularly the testes, has been reported and garnering interest among clinicians and pathologists alike (Zhang, Kao, Ulbright, & Epstein, 2013).

Testicular fibrothecomas are rare, and typically measure 0.5–8 cm, with only a handful of documented cases in medical literature (Moch, Cubilla, Humphrey, Reuter, & Ulbright, 2016). Typically, they present as painless testicular masses or are incidentally discovered during scrotal examinations or imaging studies. Most patients remain asymptomatic, and the tumor is often detected during evaluations for unrelated medical concerns (Deveci, Deveci, Öngürü, Kilciler, & Celasun, 2002). Due to their rarity and nonspecific clinical presentation, the diagnosis of testicular fibrothecoma necessitates a multidisciplinary approach involving urologists, radiologists, and pathologists. Histologically, fibrothecomas are characterized by spindle-shaped cells with bland nuclei arranged in intersecting fascicles, resembling ovarian thecomas (Zhang et al., 2013).

The rarity of testicular fibrothecomas makes this case particularly noteworthy. With only a limited number of reported cases, each new instance contributes valuable information to the existing body of knowledge. Current standards of care for testicular tumors emphasize the importance of histopathological examination for accurate diagnosis. Imaging modalities such as ultrasound and MRI are essential for preoperative evaluation, typically showing well-defined hypoechoic or hypointense masses (Cornejo & Young, 2019). Immunohistochemical staining is critical in differentiating fibrothecomas from other testicular tumors, including germ cell tumors, Leydig cell tumors, and Sertoli cell tumors (Azizi et al., 2020; Cornejo & Young, 2019).

Surgical excision remains the cornerstone of treatment for testicular fibrothecoma. Fortunately, the prognosis for patients with this condition is excellent, as these tumors are benign with minimal risk of recurrence or metastasis (Anraku, Hashidate, Nakahara, Imai, & Kawakami, 2022). Current surgical guidelines recommend a testis-sparing approach whenever possible, given the benign nature of these tumors (Laclergerie et al., 2018). We present a case of fibrothecoma of the right testis in a 44 year man with a history chronic kidney disease.

This case report has been reported in line with the SCARE 2023 Criteria (Sohrabi et al., 2023).

2.0 Patient information

A 44-year-old man with chronic kidney disease, was admitted in July 2022 for acute on chronic kidney disease complicated by post-infectious glomerulonephritis and a urinary tract infection

(UTI). He remained stable until three months ago when he presented to the Urology unit with a progressively increasing, painful right scrotal swelling that had been developing over the previous six months.

2.1 Clinical findings

Upon examination, the patient was stable in bed, not in any obvious respiratory distress, afebrile, and not pale. Mild pitting bilateral pedal edema was noted. The local examination revealed that the right scrotum was larger than the left, with both testes palpable. A firm to hard, non-tender mass measuring approximately 2 cm x 2 cm was palpated on the lateral side of the right testis, and it was not attached to the skin.

2.2 Diagnostic assessment and interpretation

1. **Full Blood Count:** The full blood count was normal, with a hemoglobin level of 13 g/dL, a normal white cell count, and a normal platelet count, indicating no acute infection or hematological disorder.
2. **Renal Function:** Renal function tests revealed a creatinine value of 356 $\mu\text{mol/L}$ and a urea level of 34 mg/dL, confirming significant renal impairment due to chronic kidney disease.
3. **Tumor Markers:**
 - LDH: 208.0 U/L (normal range: 125-220 U/L), within the normal range, suggesting no significant tumor burden.
 - AFP: 6.0 ng/mL (normal range: 0.0-5.0 ng/mL), slightly elevated, which could suggest a non-seminomatous germ cell tumor.
 - β -HCG: <2 mIU/mL (normal range: 0.0-9.0 mIU/mL), within the normal range, indicating no highly active or aggressive germ cell tumor.
4. **Ultrasound:** The ultrasound suggested a right testicular tumor accompanied by a hydrocele, supporting the clinical diagnosis and indicating the need for further diagnostic and therapeutic intervention.

2.3 Therapeutic Intervention

Based on the clinical presentation and investigation findings, a diagnosis of a right testicular tumor accompanied by a hydrocele was made. Consequently, the patient was scheduled for a right radical inguinal orchiectomy. The procedure was carried out successfully without any complications. Post-operatively, the patient remained stable, showing no immediate or subsequent complications in the following days. Regular monitoring and supportive care ensured his continued recovery and stable condition.

2.4 Follow-Up and Outcome

A staging CT scan of the abdomen and thorax revealed no signs of distant metastasis. Histopathology samples were sent to the laboratory for detailed analysis.

Histopathology Report:

Macroscopic: A right testicular specimen measuring 5x4.5x3 cm was received, with a 4.2 cm long spermatic cord attached. The cut surface displayed a tan and yellowish appearance.

Microscopic: The testicular tissue showed areas arranged in fascicles and storiform patterns with small blood vessels. There was variable cell density and collagen trapping seminiferous tubules, some of which were dilated. Acute inflammatory infiltrate was observed in the lumen, along with dense fibrosis, focal edema, and lymphangiectasis. Additionally, the tissue showed signs of epididymitis and chronic interstitial orchitis.

Diagnosis: The histopathological findings were suggestive of a fibrothecoma of the right testis.

Post-operative follow-up visits were unremarkable, and the patient remained stable throughout the recovery period.

3.0 Discussion

This case highlights the rare presentation of a testicular fibrothecoma in a 44-year-old male with chronic kidney disease. The tumors are well-circumscribed, tan-white or rarely yellow, and usually lack hemorrhage or necrosis (Zhang et al., 2013). They consist of spindle-shaped cells in storiform or fascicular patterns with variable collagen. Despite occasional features like elevated mitotic index and hypercellularity, they are benign and indolent (Jones, Young, & Scully, 1997). Immunohistochemically, they are positive for inhibin, Melan-A, and SMA, with variable staining for other markers (Jones et al., 1997; Zhang et al., 2013).

Few cases of fibrothecoma have been reported in the past decade (Algarni, Junejo, Alkhateeb, & Al-Hussain, 2021; Alkhamees et al., 2020; Anraku et al., 2022). These cases share similar characteristics with our case, including patient age, diagnostic findings, treatment methods, and outcomes. For example, Alkhamees et al. (2020) reported a case of 37-year-old male, who was referred to urology clinic as a case of painless firm right testicular mass. Right inguinal orchiectomy was performed and histopathology report confirmed a localized testicular fibrothecoma, without tunica albuginea or lymphovascular invasion. Similarly, Algarni et al. (2021) reported a rare case of testicular fibroma with an acellular collagen plaque in a 51-year-old male who presented with a painless testicular mass. Surgical excision was performed, and a follow-up CT scan of the abdomen and pelvis six months post-surgery showed no evidence of recurrence or metastasis. Furthermore, a case was reported of a 40-year-old man who was incidentally found to have a right intrascrotal mass measuring approximately 10 cm on a CT scan. The patient underwent a right radical orchiectomy. Histological examination revealed no evidence of malignancy, and the tumor was diagnosed as part of the fibroma-thecoma group. Eight months post-surgery, the patient showed no signs of recurrence (Anraku et al., 2022).

The rarity of testicular fibrothecomas emphasizes the importance of reporting each new case to enhance understanding and management of this condition. For clinical practice, it underscores the need for thorough diagnostic evaluation using imaging and histopathology to ensure accurate diagnosis and appropriate treatment. Given the benign nature of fibrothecomas, a testis-sparing surgical approach could be considered in suitable cases to preserve testicular function (Laclergerie et al., 2018). Future guidelines may evolve to incorporate such conservative management strategies more broadly.

Conclusion:

Testicular fibrothecoma is a rare benign tumor of the testis, characterized by its unique histological features and clinical presentation. While challenging to diagnose, a multidisciplinary approach and careful evaluation of clinical, radiological, and histopathological findings are essential for accurate diagnosis and optimal patient management. This case highlights the importance of considering testicular tumors in the differential diagnosis of scrotal swellings, particularly in patients with chronic medical conditions. Early diagnosis and appropriate surgical intervention are crucial for optimal outcomes in such cases.

Ethical Approval: Ethical approval was obtained for the publication of this case report.

Consent: Written informed consent was obtained from the patient's legal guardian for the publication of this case report.

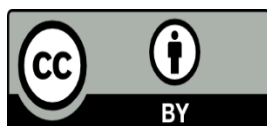
Conflicts of Interest: The author declare no conflicts of interest.

Funding: No external funding was received for the publication of this case report.

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