

Pleomorphic fibroma of the penis: A rare case report

Peniste pleomorfik fibroma: Nadir bir olgu sunumu

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ÖZ

INTRODUCTION: Pleomorphic fibroma is a rare benign fibrous skin tumor first described by Kamino et al. in 1989. Although it has been reported at various cutaneous sites, involvement of the male genital region has not previously been documented.

CASE PRESENTATION: We report a 27-year-old male presenting with a slowly enlarging, painless mass located at the penile frenulum. The patient had a history of repeatedly applying adhesive tape around the frenulum to prevent urethral discharge during sexual arousal, resulting in chronic mechanical irritation. Complete surgical excision was performed under spinal anesthesia. Histopathological examination revealed pleomorphic fibroblast-like cells without nuclear atypia, with strong vimentin positivity, consistent with pleomorphic fibroma. No recurrence was observed during six months of postoperative follow-up.

DISCUSSION: Pleomorphic fibroma is an uncommon benign fibrous neoplasm characterized by marked cytologic pleomorphism despite an indolent clinical course. Genital involvement is exceedingly rare, and this case represents the first reported occurrence on the penis. Chronic mechanical microtrauma may play a contributory role in tumor development by inducing fibroblastic proliferation. Despite histologic similarities to atypical fibroxanthoma, pleomorphic dermatofibroma, and low-grade sarcomas, features such as low cellularity, absence of mitotic activity, thickened collagen bundles, and a consistent immunophenotype support a benign diagnosis.

CONCLUSION: Pleomorphic fibroma should be considered in the differential diagnosis of penile masses, particularly in patients with chronic local irritation. Complete local excision is curative, and recurrence is exceptionally rare.

Keywords: pleomorphic fibroma, penis, benign tumor, chronic irritation

ABSTRACT

GİRİŞ: Pleomorfik fibrom, ilk kez 1989 yılında Kamino ve ark. tarafından tanımlanan, nadir görülen benign fibröz bir deri tümörüdür. Çeşitli kutanöz bölgelerde bildirilmiş olmasına rağmen, erkek genital bölge yerleşimi daha önce tanımlanmamıştır.

OLGU SUNUMU: Yirmi yedi yaşında erkek hasta, penis frenulumunda yavaş büyüyen ve ağrısız bir kitle ile başvurdu. Hastanın, cinsel uyarılma sırasında üretral akıntıyı önlemek amacıyla frenulum çevresine tekrarlayan şekilde bant uygulama öyküsü mevcuttu ve bu durum kronik mekanik iritasyona yol açmıştı. Lezyon spinal anestezi altında tamamen eksize edildi. Histopatolojik incelemede, nükleer atipi içermeyen pleomorfik fibroblast benzeri hücreler ve güçlü vimentin pozitifliği saptanarak pleomorfik fibrom tanısı doğrulandı. Altı aylık takipte nüks izlenmedi.

TARTIŞMA: Pleomorfik fibrom, belirgin sitolojik pleomorfizme rağmen klinik olarak indolent seyirli nadir bir benign neoplazmdır. Genital tutulum son derece nadirdir ve sunulan olgu, penis yerleşimli ilk vaka niteliğindedir. Kronik mekanik mikrotravmanın fibroblastik proliferasyonu tetikleyerek patogeneizde rol oynayabileceği düşünülmektedir.

SONUÇ: Pleomorfik fibrom, özellikle kronik lokal travma öyküsü bulunan hastalarda penis kitlelerinin ayırıcı tanısında dikkate alınmalıdır. Cerrahi eksizyon küratif olup, nüks son derece nadirdir.

Anahtar Kelimeler: pleomorfik fibroma, penis, benign tümör, kronik iritasyon

INTRODUCTION

Pleomorphic fibroma is a rare benign mesenchymal tumor, typically reported in middle-aged to elderly

women and most commonly involving the skin and subcutaneous tissues. The true incidence remains unknown due to the rarity of the lesion and the likelihood of underreporting. It was first described by Kamino et al. in 1989.^[1] Clinically, it typically presents as a well-circumscribed, painless, slowly enlarging nodule, most often located on the face, neck, and extremities.^[2] However, it has also been described in unusual locations such as the scalp, eyelid, and tendon sheath.^[3–5] Histopathologically, it is characterized by pleomorphic fibroblasts without nuclear atypia or mitotic activity.^[2,6]

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Although pleomorphic fibroma has been documented in several cutaneous sites, genital localization is exceedingly rare. The only known genital case was reported in 2022 in the female genital area (labia).^[6] To our knowledge, this is the first reported case of pleomorphic fibroma of the penis in the medical literature. This case highlights the importance of considering benign fibrous tumors in the differential diagnosis of penile lesions, particularly when chronic local trauma is present.

CASE PRESENTATION

A 27-year-old male presented with a painless penile mass that had been gradually increasing in size over a two-year period (Fig. 1). The patient reported discomfort during sexual intercourse but denied any lower urinary tract symptoms.

A detailed history revealed that the patient had developed a habit of tightly wrapping the frenulum region with adhesive tape to suppress urethral discharge during episodes of sexual arousal induced by social interaction with women. This repeated application of adhesive tape resulted in chronic local mechanical irritation of the frenulum region.

Physical examination demonstrated a mobile, painless, irregular-surfaced nodule measuring 35×25 mm at the frenulum. There were no signs of infection, ulceration, or urethral involvement. Given the superficial localization of the lesion and the assumption that preoperative imaging would not provide additional diagnostic value, imaging modalities such as ultrasonography were not performed.

The lesion was successfully excised under spinal anesthesia (Fig. 2). Postoperative recovery was uneventful, and the patient was discharged on postoperative day one. Six months of follow-up showed no recurrence. Longer follow-up is planned to better assess recurrence risk. No erectile or ejaculatory dysfunction was present preoperatively. During postoperative follow-up, erectile and ejaculatory functions remained unchanged, and no surgery-related sexual dysfunction developed.

HISTOPATHOLOGY

Histopathological analysis revealed hyperkeratosis and acanthosis of the epidermis. In the dermis, vascular structures and pleomorphic fibroblast-like cells



Figure 1. Macroscopic appearance of the penile lesion located at the frenulum region.



Figure 2. Intraoperative image following complete excision of the lesion.

were observed within collagen bundles. No nuclear atypia or mitotic figures were detected. (Fig. 3, 4) Immunohistochemistry demonstrated strong vimentin positivity and S-100 negativity, confirming the diagnosis of pleomorphic fibroma.^[2,6-8]

DISCUSSION

Pleomorphic fibroma is an uncommon benign fibrous neoplasm characterized by prominent cytologic

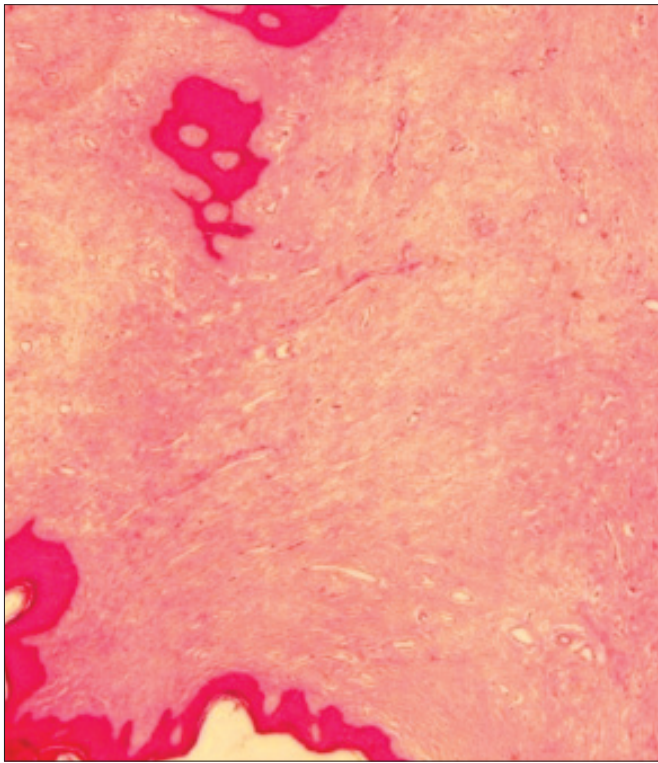


Figure 3. Histopathology showing epidermal hyperkeratosis, hypergranulosis, and acanthosis (H&E, x2).

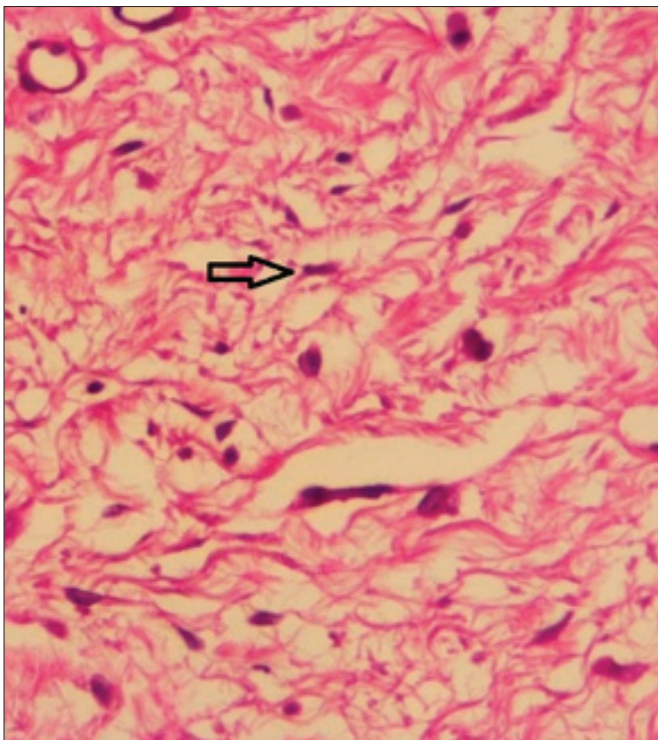


Figure 4. Dermal vascular structures with pleomorphic fibroblast-like cells (H&E, x40).

pleomorphism despite its clinically indolent behavior. While typically observed on the face, trunk, and extremities, atypical localizations continue to be reported, broadening the recognized anatomical spectrum of this tumor. Genital involvement is extremely rare,

with only a single case documented in the female labia. The present case is, to our knowledge, the first reported occurrence of pleomorphic fibroma on the penis. Compared with the previously reported female genital pleomorphic fibroma, the present case differs in anatomical location but shows similarity in terms of benign clinical course and histopathological features.

The association of this lesion with chronic mechanical irritation is a particularly noteworthy aspect. The patient's repeated adhesive tape application to suppress urethral discharge likely induced persistent dermal microtrauma. This mechanism aligns with proposed etiological theories in the literature suggesting that local irritation or injury may stimulate fibroblastic proliferation and subsequent development of fibrous tumors. Similar associations have been described for dermatofibroma, keloid formation, and other fibroblastic lesions. Our case reinforces the hypothesis that chronic mechanical factors may play a contributory role in pleomorphic fibroma pathogenesis.

Histologically, pleomorphic fibroma may mimic a number of benign and malignant dermal proliferations, including atypical fibroxanthoma, pleomorphic dermatofibroma, and even low-grade sarcoma, due to the presence of markedly pleomorphic cells. However, distinguishing features such as sparse cellularity, absence of mitotic activity, thick collagen bundles, and characteristic immunohistochemical staining patterns (vimentin positive, S-100 negative) confirm its benign nature. This differentiation is crucial to prevent unnecessary aggressive surgical management.

Surgical excision remains the treatment of choice and is associated with excellent prognosis. Reported recurrence rates are extremely low, and our patient demonstrated complete recovery with no recurrence during six-month follow-up. As this is a single case report, definitive conclusions regarding the biological behavior and recurrence risk of pleomorphic fibroma in this location cannot be drawn. However, because penile involvement is extremely rare, longer follow-up is warranted to adequately evaluate clinical behavior and the risk of recurrence.

This case expands the current clinical understanding of pleomorphic fibroma, emphasizing the importance of including benign fibrous tumors in the differential diagnosis of penile lesions, particularly when chronic mechanical trauma is present. Future accumulation of similar cases may help clarify whether genital

pleomorphic fibromas exhibit distinct biological or behavioral characteristics.

CONCLUSION

Pleomorphic fibroma should be considered in the differential diagnosis of penile lesions, particularly in patients with a history of chronic local irritation. Awareness of this entity may help clinicians prevent misdiagnosis and overtreatment. Simple surgical excision is curative in most cases, and recurrence is exceedingly rare.^[9]

Patient Consent

Written informed consent was obtained from the patient for publication of this case and accompanying images.

Peer-review

Externally peer-reviewed.

Conflict of Interest

No conflict of interest was declared by the authors.

Financial Disclosure

No financial disclosure was received.

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