

# Leiomyoma on the shaft of penis

## Case Report

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**Abstract:** Primary soft tissue tumours of the penis, such as leiomyomas, are very rare. Most present as small and painless but gradually increasing swellings on the penis. To the best of our knowledge, only 9 cases have been reported in the literature so far. This rare pathologic finding, which usually mimics a malignant lesion, should be included in the differential diagnosis of penile neoplasm. Surgical excision of the lesion provides both the histological diagnosis and an effective therapy. We report a case of a large leiomyoma on the shaft of the penis measuring 8x5 cm, which possibly represents the largest reported leiomyoma of the penis in English literature till date.

**Keywords:** *Leiomyoma • Penis • Shaft • Tumor*

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## 1. Introduction

Primary soft tissue tumours of the penis are rare [1]. Leiomyomas tend to grow in size rapidly and hence mimic a malignancy. Early surgical excision is therefore advised to provide both a diagnosis as well as a cure [2]. In the review of medical literature, we found only nine reported cases during the last 64 years, which will be discussed later in this study (Table 1). We report here a case of a large leiomyoma on the shaft of the penis.

## 2. Case Report

A 60-year-old man presented to the outpatient department (OPD) with a painless swelling on the shaft of the penis that had existed for 8 months and was progressively increasing in size. The patient denied history of any trauma, or any bleeding from the swelling. On examination, the globular swelling measured 8x5x3 cm, was soft, non-tender, non-fluctuant, non-transilluminant, and free from the overlying skin with no signs of local inflammation (Figure 1). There was no loco-regional lymphadenopathy. The swelling could be felt separately from the underlying corpora cavernosa. With a working diagnosis of a soft tissue tumor, an excision biopsy was planned. A vertical skin incision was

taken in the long axis of the swelling, which was found to be in the subcutaneous tissue with surrounding planes well preserved. A single feeding vessel was found in the postero-lateral region that was ligated, and the swelling was lifted off the underlying corpora cavernosa (Figure 2).

On gross examination of the cut surface, it was found to vary from soft to firm and non-capsulated with areas of cystic degeneration. The cut surface of the specimen showed homogenous greyish-white appearance with a few blood vessels on the surface. Hematoxylin and eosin (H & E) stained sections showed intersecting smooth muscle fascicles. The spindle cells showed round plump nuclei. Foci of fibrosis and hyaline degeneration were seen. There was no evidence of mitotic figures or atypia (Figure 3).

Postoperatively, the patient recovered well and the wound healed; he was able to resume his daily activities without any discomfort within 2 weeks of the surgery.

## 3. Discussion

Soft tissue tumors, both benign and malignant, can occur in the penis [7]. Benign soft tissue neoplasms include hemangioma, lymphangioma, neurofibroma, neurilemoma, granular cell myoblastoma, dermatofibroma and leiomyoma; the malignant neoplasms include

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**Table 1.** Previously Reported Cases of Penile Leiomyomas [1-7].

Year of reporting	Location	Dimension(cms)
1952	Dorsal Shaft	-
1956	Frenulum	0.5
1968	Glans	0.8
1970	Prepuce	1.0
1979	Lateral Base	1.5
1980	Prepuce	-
2000	Glans	-
2002	Corona Glandis	0.8
2007	Corpora	1.9

**Figure 1.** Clinical appearance of swelling on presentation.



malignant hemangioendothelioma, Kaposi's sarcoma, leiomyosarcoma, fibrosarcoma, malignant schwannoma, lymphoma and undifferentiated sarcoma [1].

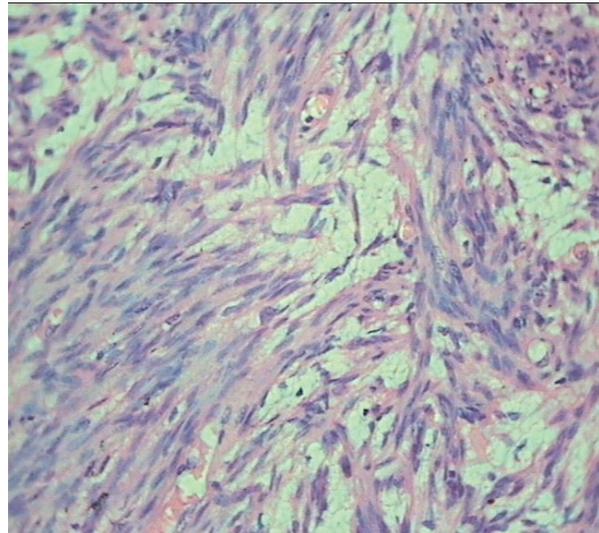
Leiomyomas are uncommon neoplasms that arise from smooth muscle and are usually located in the subcutaneous plane. They commonly involve the glans and corona (6 out of 9 cases reported) while leiomyosarcoma tends to occur on the shaft [1]. These lesions tend to be small (1.0 cm diameter), rubbery in consistency with light yellow to white cut surfaces [5]. Careful pathological analyses to identify pleomorphic, hyperchromatic and mitotic characteristics of malignancy, together with immunohistochemical techniques to provide evidence of actin or vimentin molecules within the tumor cells, are of value in differentiating leiomyoma from leiomyosarcoma [2,4]. A characteristic feature of leiomyoma is that it progressively increases in size and may become large enough to complicate surgical removal. Therefore, early local excision of a small mass is indicated to achieve the diagnosis and to avoid loss of tissue and permit cosmetic results.

The first case was reported by Herbut [3] in 1952 in a 51 year old man on the dorsal surface. Subsequently,

**Figure 2.** Intra-operative picture showing the swelling with the feeding vessel.



**Figure 3.** Microscopic high power image showing intersecting smooth muscle fascicles.



Dehner & Smith [1], in 1970 published a clinico-pathologic study of 46 cases of soft tissue tumours of the penis (24 benign, 22 malignant), which included 3 cases of leiomyoma located on the prepuce, frenulum and glans respectively. Following this, other cases were reported by Belis [4], Leoni [5], Stehr [6], Bartoletti [2], and Liu [7], almost all occurring on or near the glans and corona glandis; these cases account for 9 reported cases in the medical literature so far [1-7].

In summary, we report a case of an 8 x 5 cm penile leiomyoma on the shaft, which probably represents the largest leiomyoma of the penis reported to date.

## References

- [1] Dehner LP, Smith BH. Soft tissue tumors of the penis: a clinicopathologic study of 46 cases. *Cancer* 1970; 25:1431–47
- [2] Bartoletti R, Gacci M, Nesi G, Franchi A, Rizzo M. Leiomyoma of the corona glans penis. *Urology* 2002; 59:445
- [3] Herbut PA: *Urological Pathology*. Philadelphia, Lea and Febiger, 1952, pp 851–853
- [4] Belis JA, Post GJ, Rochman SC et al. Genitourinary leiomyomas. *Urology* 1979; 13: 424-9
- [5] Leoni S, Prandi S, Mora A. Leiomyoma of the prepuce. *European Urology* 1980; 6(3): 188-9
- [6] Stehr M, Rohrbach H, Schuster T, Dietz HG. Leiomyoma of the glans penis. *Urologe A* 2000 Mar; 39(2):171-3
- [7] Liu SP, Shun CT, Chang SJ, Chen J, Hsieh T. Leiomyoma of the corpus cavernosum of the penis. *International Journal of Urology* 2007 Mar; 14(3):257-8