Rare Subcutaneous Localization of Leiomyoma: A Case Report

Kenza Oqbani**, Abdelmounim Moumi², Nawal Harchichi², Mariame Chraibi¹ and Sanae Abbaoui¹

¹Department of Pathology, Mohammed 1st University, Mohammed VI University Hospital, Oujda, Morocco
²Department of Pathology, Al Farabi Hospital, Oujda, Morocco

Abstract

A 55-year-old Arabic and Moroccan male patient presented with a painful nodule in the left knee without a previous history or trauma. The patient underwent a wide excision of the nodule. The histological study evoked the diagnosis of a subcutaneous leiomyoma. The final diagnosis was established by the immunohistochemistry. One year after the operation no tumor recurrence has been detected. Leiomyomas are benign soft tissue tumours, which occur most commonly in the skin of the lower extremities in middle-aged females. The main differential diagnosis is the leiomyosarcoma, hence the necessity of an extensive sampling of the lesion.

Keywords: Leiomyoma; Knee; Histology; Differential diagnosis; Immunohistochemistry

Background

Leiomyoma of the soft tissue is quite uncommon benign tumor accounting for less than 2% of all benign soft-tissue tumors [1]. It derives from smooth muscle cells. We distinguish deep and superficial forms. The deep form may rarely occur in the deep soft tissue of the extremities in adults. However, the knee affection remains exceptional and only a minority of cases has been reported [2,3]. Among superficial leiomyoma, there is cutaneous leiomyoma and vascular leiomyoma. Cutaneous leiomyoma commonly arises at the extremities, the trunk and the cervicofacial regions. Leiomyomas are treated curatively with resection.

Through this observation, we underline clinicopathological, therapeutic and evolutive features of this rare localization of leiomyoma.

Case Report

A 55-year-old Arabic and Moroccan male patient noticed a spontaneously painful nodule in his left knee swelling about 3 years before he was first diagnosed. The pain had been sporadic and vague at the onset, 18 months before the presentation. There was no history of a trauma, and apart from his knee problems, his past medical history was uneventful and his physical activities were kept.

On physical examination, the tumour presented as a subcutaneous whitish nodule at the anteromedial aspect of the left knee. It was tender to palpation and measured 15 mm in diameter. It was stiff-elastic, moveable from the surrounding tissue and did not pulsate. There were no signs of a deep vein thrombosis and no intraarticular effusion.

The examination of the knee joint was normal. No radiographic examinations have been performed. The patient underwent wide excision of the nodule.

The macroscopic examination revealed a well circumscribed, homogeneous, firm and whitish nodule measuring 15 × 8 × 4 mm. Histological sections were prepared in the conventional manner and stained with haematoxylin and eosin. Histological examination showed a benign tumoral proliferation composed of intersecting fascicles of spindle cells (Figure 1a). These cells were characterized by an abundant eosinophilic cytoplasm and a regular, uniform, blunt-ended and cigar-shaped nuclei (Figure 1b). Cytonuclear atypias, mitosis and tumoral necrosis were absent (Figure 1b). There was no vascular proliferation and no hyaline or myxoid degenerations. The diagnosis of leiomyoma was held. A manual immunohistochemistry technique was made according to the enzymatic method employing the peroxidase and requiring a polymer. A panel of epithelial membrane antigen (EMA), smooth muscle actin (SMA), CD 68 and S-100 protein antibodies was applied to sections.

The immunohistochemistry confirmed the smooth muscular nature of tumoral cells by a strong staining with the smooth muscle actin antibody (Figure 2a) and a negative reaction against CD 68, S-100 protein (Figure 2b) and epithelial membrane antigen. Postoperatively, the patient experienced a complete and immediate resolution of his symptoms. One year after the operation, no tumor recurrence has been detected.

Discussion

Leiomyomas were described the first-time Stout [4]. There are two different types of leiomyoma; gynaecologic and non-gynaecologic type. The former interests abdominal cavity, lesser pelvis and retroperitoneum. The latter may be subdivided into subcutaneous (superficial) tissue and deep soft tissues of members, trunk, head and neck. The superficial leiomyoma of members affects commonly the lower extremities in 75% of cases than the upper extremities but...
These criteria must be combined to eliminate the diagnosis of a leiomyosarcoma hence the interest of an extensive sampling of the lesion. The immunohistochemical workup would typically require not only confirmation of the smooth-muscle differentiation, using smooth muscle actin but also exclusion of others differential diagnosis especially histiocytfibroma and benign schwannoma by a negative staining for respectively CD68 and S100 protein.

Leiomyomas of soft tissue should be cured by complete excision. If they recur, the recurrence should be non-destructive. Long-term follow-up did not reveal metastases, but one of 29 patients reported by Billings et al. [7] and two of 36 patients reported by Paal and Miettinen [8] had local recurrence. However, none of the patients with recurrence demonstrated disease progression in follow-up.

Conclusions

Leiomyomas are a very rare tumor, it has to be considered in the differential diagnosis for painful swellings of the lower extremities. The complete surgical excision enables a histopathologic diagnosis and offers complete relief of symptoms as shown by this case. The rate of local recurrence is very low with complete excision. However, if a tumour does recur one must consider leiomyosarcoma as a probable diagnosis.

References

1. DeMouy EH, Kaneko K, Rodriguez RP (1995) Calcified soft tissue leiomyoma of the shoulder mimicking a chondrogenic tumor. Clin Imaging 19: 4-7.
2. Dicaprio MR, Jokl P (2003) Vascular leiomyoma presenting as medial joint line pain of the knee. Arthroscopy Mar 19: E24.
3. Murty AN, Ireland J (2000) Angiomyoma of the patellar fat pad. Knee 7: 253-254.
4. Stout AP (1937) Solitary cutaneous and subcutaneous leiomyoma. Am J Cancer 29: 435-469.
5. Hachisuga T, Hashimoto H, Enjoji M (1984) Angioleiomyoma: A clinicopathologic reappraisal of 562 cases. Cancer 54:126-130.
6. Gebhardt MC, Ready JE, Mankin HJ (1990) Tumors about the knee in children. Clin Orthop 255: 86-110.
7. Billings SD, Folpe AL, Weiss SW (2001) Do leiomyomas of deep soft tissue exist? An analysis of highly differentiated smooth muscle tumors of deep soft tissue supporting two distinct subtypes. Am J Surg Pathol 25: 1134-1142.
8. Paal E, Miettinen M (2001) Retroperitoneal leiomyomas: A clinicopathologic and immunohistochemical study of 56 cases with a comparison to retroperitoneal leiomyosarcomas. Am J Surg Pathol 25: 1355-1363.