



A Superficially Located Soft Tissue Mass in Upper Leg of a 7-Year-Old Boy

● Şafak Asiye Bulut¹, ● Yasin Muşdal², ● Yasemin Nazife Ardiçoğlu Akışın³, ● Nejat Akar⁴

¹TOBB ETU Faculty of Medicine, Department of Pathology, Ankara, Turkey

²TOBB ETU Faculty of Medicine, Department of Orthopaedics and Traumatology, Ankara, Turkey

³TOBB ETU Faculty of Medicine, Department of Biochemistry, Ankara, Turkey

⁴TOBB ETU Faculty of Medicine, Department of Paediatrics, Ankara, Turkey

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Dear Editor;

A heterogeneous group of soft tissue masses including pseudotumours, benign and malignant neoplasms may occur in children. Most of them are benign and located in the arm, leg, or trunk. Leiomyomas constitute a small part of these neoplasms and can occur anywhere in the body where smooth muscle is found such as the skin, the eyes, the uterus, the bladder, and the gastrointestinal and respiratory tracts. As they are formed of spindle cells, they can resemble some pseudotumours or even malignant neoplasms (1). In the evaluation, the age of the child, location and duration of the tumour, rate of growth, consistency, and associated symptoms with radiological findings are helpful for determining differential diagnosis and treatment. Surgical excision provides both diagnosis and treatment and recurrence is rare (2).

A 7-year-old boy was referred to the paediatric outpatient department with a nodular lesion on the lateral of his right upper leg. It was noticed 2 months prior and followed by a change in size. During his first visit, the nodule was about 10x10 mm and was tender with palpation. The surface temperature was normal, the mass was smooth, firm with well-defined edges. The ultrasonographic

examination showed an oval, well-shaped, 11x5.5x11.5 mm sized hypoechoic mass in the subcutaneous fat tissue with a suspicion of schwannoma and it was agreed to have a second examination three months later. The second ultrasonographic data showed that the size of the nodule had become 14x5.6x14 mm and an operation was planned. The preoperative laboratory tests were normal.

The nodule, which was described as located subcutaneously and attached to fascia by the surgeon, was resected for pathological evaluation. Microscopic examination revealed a well-circumscribed, unencapsulated tumour formed of bundles and fascicles of spindle cells with eosinophilic cytoplasm with variable cytoplasmic vacuole in one end, blunt ended elongated nuclei and indistinct nucleoli. Three mitotic figures per 10 high power views were observed. There was no coagulative necrosis.

The tumour cells showed diffuse and strong cytoplasmic staining with Smooth Muscle Actin antibody immunohistochemically. CD68 antibody stained macrophages, CD34 antibody stained small vessels throughout the tumour and S100 stained dendritic cells but not tumoral spindle cells. No staining was observed

Address for Correspondence

Yasemin Nazife Ardiçoğlu Akışın MD, TOBB ETU Faculty of Medicine, Department of Pathology, Ankara, Turkey
Phone: +90 312 292 99 15 E-mail: yadicoglu@gmail.com ORCID ID: orcid.org/0000-0002-4109-0220

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with S100, epithelial membrane antigen, HMB45 and Desmin antibodies. The MIB-1 proliferative index was 10-15%.

The diagnosis was a spindle cell mesenchymal neoplasm consistent with a leiomyoma. Although it was totally excised, clinical and radiological follow-up were advised due to the hypercellularity, mitosis and MIB-1 proliferation index. In the follow-up of six months duration, the patient showed no signs of recurrence via ultrasonographic examination.

Soft tissue leiomyomas are smooth muscle-derived benign tumours with minimal atypia and few mitoses but with no coagulative necrosis. They are seldom reported as occurring in the lower extremities (2). They can be located in dermis, subcutis, and also in deep soft tissue. The skin is the second most common location for leiomyoma after the uterus, hosting ~5% of all leiomyomas. When they are located in the dermis, they are characteristically small and superficial, and they arise from arrector pili muscles (3). It is important to differentiate from leiomyosarcoma especially when mitotic figures and MIB-1 proliferation is higher than the

expected. Leiomyosarcoma of soft tissue is relatively rare, and typically a tumour of adults and the elderly. They account for only 7 to 15 percent of all childhood soft tissue sarcomas (4). Soft tissue sarcomas can occur anywhere in the body, but most originate in an extremity (59%), the trunk (19%), the retroperitoneum (15%), or the head and neck (9%) (5).

The resected nodule was diagnosed as a leiomyoma. The specimen didn't include adjacent normal skin or deep muscle tissue, but it is thought to have arisen from the arrector pili muscles considering its location (below the dermis and above the muscle). Although it had an MIB-1 proliferation index higher than 10% and some mitotic figures, it was considered as benign because of the young age of the patient and its superficial location. Clinical and radiological follow-up is advised.

As in our case, not only the pathologic features but also the age of the patient, location and duration of the tumour, rate of growth and associated symptoms are important in the diagnosis of soft tissue tumours. The patient's family consented to the publication of this study.

Ethics

Informed Consent: The patient's family consented to the publication of this study.

Peer-review: External and internal peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: Y.M., Ş.A.B., Concept: N.A., Y.N.A.A., Ş.A.B., Design: Y.N.A.A., Data Collection or Processing: Ş.A.B., Y.N.A.A., Analysis or Interpretation: Ş.A.B., Literature Search: Y.M., Ş.A.B., Writing: Ş.A.B., Y.N.A.A., N.A.

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Figure 1. First ultrasonographic image



Figure 2. Ultrasonographic image before the operation