# A Rare Localization of Subcutaneous Dermatofibroma: Case Report

## Subkutanöz Dermatofibromun Nadir Bir Lokalizasyonu

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**ABSTRACT** Subcutaneous dermatofibroma is a benign neoplasm containing fibroblastic and histiocytic cells. It occurs frequently on the skin of the proximal extremity limb of firmness. However it occurs rarely in deep soft tissues of the head and neck. It has a clinical importance because of being confused with some other benign and malign tumors. Differential diagnosis with dermatofibrosarcoma protuberance is especially important. In this case, a 26-year-old female presented with a semi mobile painless swelling mass in the midline of neck, at the level of hyoid bone. The mass was excised of under general anesthesia after clinical and laboratory examinations. In this presentation, it is discussed accompanying by literature of clinical, radiological and histopathological features of subcutaneous dermatofibroma.

**Key Words:** Histiocytoma, benign fibrous; head and neck neoplasms

**ÖZET** Subkutanöz dermatofibrom fibroblast ve histiyositleri içeren benign bir tümördür. Sıklıkla ekstremitelerin proksimalindeki ciltte görülür. Bununla birlikte baş ve boyun bölgesindeki derin yumuşak dokularda görülmesi nadirdir. Diğer bazı benign ve malign tümörler ile karışması nedeniyle klinik açıdan önemlidir. Ayırıcı tanısında özellikle dermatofibrosarkom önemlidir. Bu vaka, hiyoid kemik seviyesinde, boyun orta hatta, ağrısız, kısmen hareketli, şişlik yapan kitle ile başvuran 26 yaşında bir kadındı. Kitle klinik ve laboratuvar incelemelerinden sonra genel anestezi altında çıkartıldı. Bu yazıda subkutanöz dermatofibromun klinik, radyolojik ve histopatolojik özellikleri literatür eşliğinde tartışılmıştır.

**Anahtar Kelimeler:** Histiyositom, benign fibröz; baş ve boyun neoplazileri

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Subcutaneous dermatofibroma (benign fibrous histiocytoma) is a benign neoplasm characterizing with fibroblastic and histiocytic differentiations.[1] This mass most frequently occurs in the extremities.[2] A trough is typically formed when it is squeezed between the fingers. This is known as a symptom of trough and it facilitates recognition.[3] It is rarely seen in the muscle and subcutaneous regions.[2] The origin of the tumor is thought to be the histiocyte.[3] Definitive diagnosis is made by histopathological examination following the total excision. We presented a rare case of subcutaneous dermatofibroma in the midline of the neck, at the level of hyoid bone with regard to clinical, radiological and pathological features and appropriate management.

## CASE REPORT

Twenty-six years old female patient admitted to our clinic with painless swelling existing for 2-3 months in midline neck (Figure 1). The patient had no known medical history in her property and family history. In physical examination, there was a mass about 2x2 cm of solid, hard, semi mobile and forming precision while pressing on it in the midline of the neck, at the level of hyoid bone. In the patient's Computerized Tomography (CT), hypodense lesion at the level of the hyoid bone at the dimensions of 21x15x16 mm and thought to be solid was monitored (Figure 2). Fine needle aspiration biopsy (FNAB) was performed twice with an interval of 15 days. It was reported as acellular FNAB. The mass was totally excised under general anesthesia. (Figure 3). Dissection of the mass from the surrounding tissues was relatively easy with minimal bleeding. The specimen was sent to pathology. It was detected that encapsulated lesion of 2x1.5 cm in dimension in the macroscopic analysis of the specimen. Microscopically was composed of slightly polymorphic spindle cells with stroiform pattern regularly bordered (Figure 4a,b). Immunohystochemical analysis indicated CD34 negative result in fibrohystiocytic tumor cells. Internal control positivity observed on vascular endothelium. As a result diagnosis was subcutaneous dermatofibroma. In six-month controls of the patient, any recurrence or complications were not observed.

## DISCUSSION

Dermatofibroma are usually divided as cutaneous and deep soft tissues.[4] Subcutaneous dermatofibroma constitutes 1% of all cases of dermatofi-

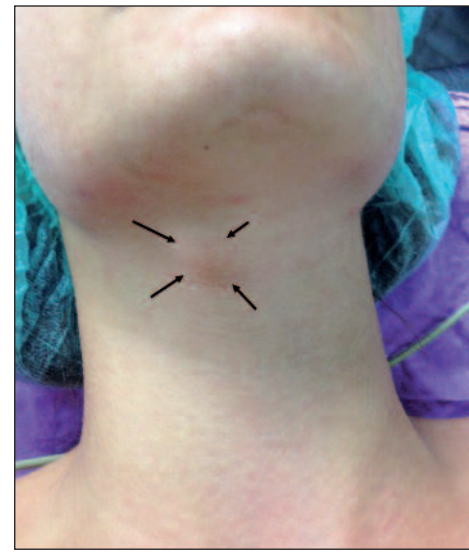

**FIGURE 1:** Mass in the midline of the neck, at the level of hyoid bone.

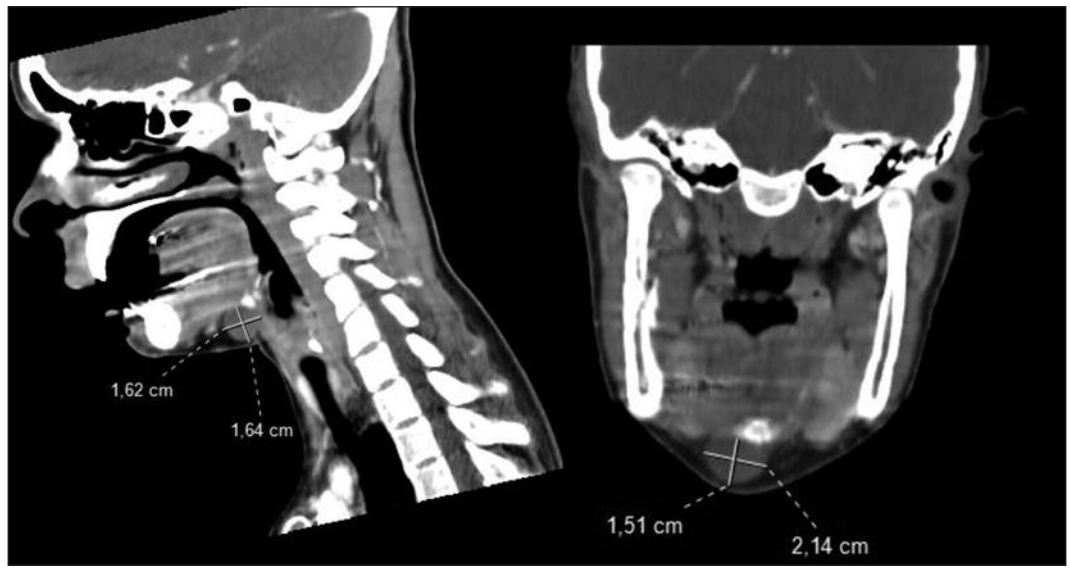


**FIGURE 2:** Preoperative CT scans revealed a 21*15*16 mm located in front of the hyoid corpus.

broma.[3] It was found by Dahlin for the first time.[5] It is seen in men 2.5 times more often.[4,6] Our patient was a 26 year-old female patient. The tumor has been associated with sun exposure, chronic infection and previous trauma.[7] There were not potential risk factors in this case. In the related literature, it was defined involvement the buccal space, cheek, submandibular triangle, oral tongue, supraclavicular fossa, mandible, nasal cavity, and floor of mouth, larynx on the head and neck region.[1] In our patient, the mass was located in the midline neck at the alignment of hyoid bone. It may give different symptoms such as dysphagia and dyspnea due to the site of the mass.[7] Our patient had no complaints except for pain when it is pressed on. Dermatofibromas may be confused with malignant and benign tumors. In its differential diagnosis, especially dermatofibrosarcoma protuberance, malign fibrous histiocytoma, nanocephalia fibromas, giant cell tumor, fibrous dysplasia, aneurysmal bone cysts, rhabdomyosarcoma and desmoid tumors should be kept in mind.[6] The definite diagnosis in dermatofibromas is determined by the immunohistochemical examination of pathological material. Histopathologically, this tumor contains a biphasic cell population of fibroblasts and histiocytes.[8] The negativity for S-100 and SMA could differentiate the lesion from neurogenic tumors and leiomyosarcoma and the positivity for vimentin and CD 68 showed that the lesion was comprised of fibroblast-like cells and histiocytes on immunohistochemistry.[9] While dermatofibromas are being dyed with factor XIIIa strongly as immunohistochemical, and it is not being dyed with CD34, however dermatofibrosarcoma protuberance which is important in differential diagnosis is dyed with factor CD34.[10,11] It should be considered other masses in the midline of the neck (such as dermoid cyst, thyroglossal cyst, lymphadenopathy, thyroid nodules) in the differential diagnosis.

In the related report, due to high accuracy, noninvasiveness, and lack of radiation exposure, color duplex ultrasonography is useful in the diag-

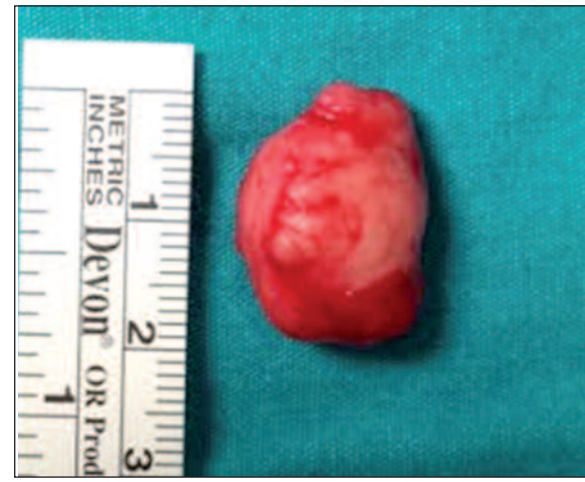


**FIGURE 3:** The mass was completely excised.

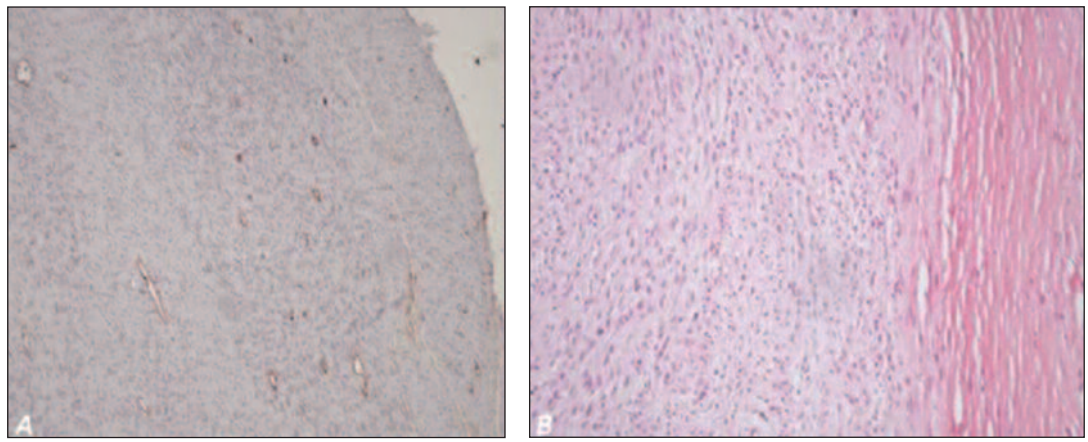

**FIGURE 4a,b: a.** Immunohystochemical analysis indicated CD34 negative result in fibrohystiocytic tumor cells. Internal control positivity observed on vascular endothel, H&E x100. **b.** Slightly polymorphic spindle cells with stroiform patern regularly bordered lesion, H&E x100.

nosis and differential diagnosis of any pathologic masses in the head and neck region and provides most useful preoperative information for the decision making prior to any surgical procedure.[1] In our patient, CT and ultrasonography were used in the differential diagnosis of pathological mass and they were enough preoperative information for surgical procedure. For diagnosis and treatment in dermatofibromas, total excision is required. The recurrence in dermatofibromas is below 2%. In some atypical forms, the recurrence rate was recorded.[12]

In conclusion, we presented the clinical characteristics, radiological imaging, pathological differential diagnosis and proper treatment of a patient with subcutaneous dermatofibroma in the midline of the neck, at the level of hyoid bone. Subcutaneous dermatofibroma should be considered in the differential diagnosis of masses in the midline of the neck. Subtotal excision or enucleating may cause recurrence.[7] Our patient underwent total excision. In postoperative six-month controls, complications and recurrence were not observed.

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