

Spindle Cell Neoplasm

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Abstract:-

- **Spindle neoplasm an uncommon variant of benign lipomatous tumor, occurs mostly in the posterior neck or the shoulder**
- **It contains well circumscribed & no aggressive subcutaneous mass**
- **Spindle cell neoplasm may be traced to epithelial, mesenchymal & odontogenic**
- **Latin (AE1/AE3, K1), K1, K18, and EMA appear to be the most sensitive/reliable epithelial spindle cell neoplasms.**
- **Spindle cell neoplasms can be benign or malignant. Under a microscope, the neoplasm is composed of adipocytes flat cells and long, thin spindle cells. In a spindle cell lipoma, the adipocytes are surrounded by spindle cells.**
- **The diagnosis test includes immunohistochemistry and fluorescence in site hybridization (FISH) to confirm the diagnosis and to include other tumors that can look like a spindle cell lipoma. If a spindle cell neoplasm is large or uncomfortable, it can be removed.**

I. INTRODUCTION

Under your skin, a mass of fatty tissue is called a spindle cell neoplasm. (1) Usually, it affects the back of your neck or your shoulder. The deepest layer of your skin, known as your subcutaneous tissue, is where spindle cell neoplasms most frequently form. It has distinctive histological characteristics and may present a cytology diagnostic conundrum. Spindle cells, adipocytes, collagen fibers, and a myoid matrix are present in different amounts, and occasionally there is minor pleomorphism. The soft tissues, connective tissues, and epidermis are affected first. The term "spindle cell" describes a cell's cytological and histological form. (2)(3)(4) Benign lipoma neoplasms known as spindle cell neoplasms typically develop in male patients' upper back, posterior neck, and shoulders. (5) Types of soft tissue spindle cell neoplasms include benign and malignant tumors as well as reactive lesions. (6)

II. EPIDEMIOLOGY

➤ Frequency:

The incidence of a lipoma occurs in 1 in 1000 people.

➤ Sex:

- Solitary lipomas are seen predominantly in women. multiple lipomas occur frequently in men

- It has characteristic histological features that can pose a diagnostic dilemma in cytology
- It presents with a mixture of spindle cells, adipocytes, collagen fibers & a myoxid matrix in varying proportions sometimes with mild pleomorphism
- First, the epidermis, soft tissues & connective tissues are impacted
- Spindle cell refers to the shape of the cell on cytology & histology

➤ Age:

Lipomas can occur at any age however they usually arise in early adulthood. Rarely, they can occur in childhood or infancy (7).

➤ Clinical Presentation:

Lipomatomas are usually painless, though some may hurt if they press against nerves or other structures. Here are a few signs and symptoms of lipoma.

Soft, painless lumps under the skin that grow unusually slowly; they are easily moved when handled; they are commonly found on the neck, shoulder, back, or thighs; they rarely grow larger than two inches; they grow quickly; and they do not spread to the surrounding tissues. (8)

➤ Causes

Genetic predisposition, chromosomal mutation, cellular genetic abnormalities in oncogene and tumor suppressor genes, hormonal alterations such as those that occur during menopause. (9) (10)

➤ Pathophysiology

An accumulation of spindle cells, either with or without fat buildup linked to chromosomal rearrangements, causes lesions. (11).

➤ Diagnosis

- This is usually done clinically
- Ancillary investigation includes
- Pro-operative radiography
- Both ultrasound & magnetic resonance imaging have been used with some success to differentiate lipomas & liposomas but are not entirely reliable
- CT scans are occasionally required (12)
- PET scan (positron emission tomography) detects whether the cancer has spread or metastasized (13)

➤ *Biopsy:*

The sample from the biopsy is sent to a pathologist who will test the specimen to determine whether the cells are cancerous (14)

➤ *Treatment*

- There is no need for treatment for a spindle cell neoplasm
- If it bothers, painful, or is growing doctor will recommend to remove

➤ *Surgical Removal:*

- Most lipomas are removed surgically by cutting them out
- recurrences after removal are uncommon
- Possible side effects are scarring & bruising
- A technique known as minimal incision extraction may result in less scarring

➤ *Liposuction:*

In this needle & a large syringe is used to remove the fatty lump.

➤ *Post Surgery:*

The patient was given antibiotics, analgesics, and multivitamins

III. A CASE REPORT

A 17-year-old male presented with a right shoulder ulcerated neoplasm (spindle cell neoplasm) the requested treatment as the ulcer was causing pain, and there was pus discharge from the wound.

He has a history of swelling (2) over his right shoulder for 2 years and underwent excision of 2 swellings then later it developed into an ulcer.

Now the patient has complained of two wounds (ulcer) over the anterior aspect of the right shoulder associated with pain on examination 2×1cm & 2.5×1cm ulcer over the interior aspect of the right shoulder floor is covered with gravidarm on palpation for 2 swelling 2×2cm over the floor of the ulcer.

Histopathologic analysis demonstrated a spindle cell neoplasm epidermis shows ulceration, dermis shows diffuse ill-defined lesion composed of spindle cells arranged in fascicles and interlacing bundle individuals.

Cells are uniform having a moderate amount of eosinophilic cytoplasm & plump elongated vesicular nucleus. There is diffuse dense chronic lymphoplasmacytic infiltrate mitotic activity is sparse.

All the margins are free from tumour.

The patient underwent a surgery with 1cm margin ulcerated lesion over the right shoulder the defect be measured flaps transposition & DP flap are marked, and the flap raised defect closed.

The defect & donor area of the flap is covered with SSG harvested from the right thigh dressing done.



Fig 1 Ulcerated Neoplasm (Spindle Cell Neoplasm)

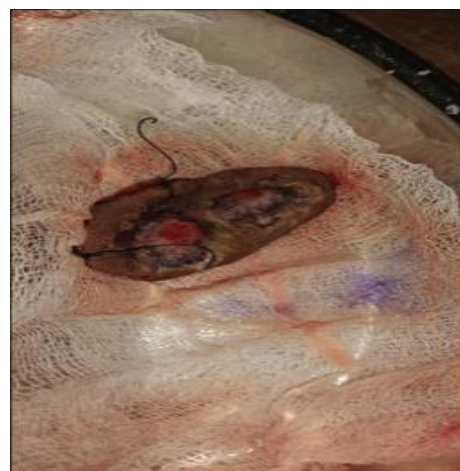


Fig 2 Ulcer Developed after Incision



Fig 3 Flap Covered SSG Harvest from the Right Thigh

IV. DISCUSSION

This case study presents a patient with a right shoulder ulcerated neoplasm, also known as a spindle cell neoplasm. These tumors are typically located in the upper trunk or posterior neck, although they can also be seen less frequently in the breast, perineum, and oral cavity. The patient presented with a two-year history of swellings over the right shoulder, which later turned into an ulcer that caused pain. Upon examination, a spindle cell neoplasm was diagnosed based on the observation of two 1cm and three 1cm ulcers over the anterior aspect of the shoulder. Histopathological reports confirmed this diagnosis.

The precise aetiology is still unknown. It has been suggested that fibroblasts, adipocytes, immature mesenchymal cells, and CD34-positive dendritic interstitial cells are the source of spindle cells (15). According to histology, the lesion is made up of myxoid stroma-containing eosinophilic collagen bundles, small, homogeneous spindle cells, and mature adipocytes.

This is not the case with lipomas, which usually consist solely of an adipocyte component embedded in a collagenous matrix, generating a lobular pattern. On immunohistochemical stains, the spindle cells are positive for CD34 but negative for S-100 protein.

The gold standard for evaluating big lipomas is magnetic resonance imaging (MRI), especially when the lesion is larger than 5 cm, growing quickly, or involves nearby structures. (16)

Fine needle aspiration, which is as suggestive as histology, can help diagnose patients in which MRI is not as specific. Domanski et al. state that the cytological features are a blend of collagen fibers, homogeneous spindle cells, and mature adipocytes in various ratios.

Compared to open surgery, suction-assisted lipectomy results in a better aesthetic outcome and lower morbidity when lipomas are removed through tiny incisions. Open surgery is still thought to be the best course of action in cases of big lipomas since this method has a higher risk of recurrence (17). Surgical excision is the treatment for SCL; however, a pathologic study is required to rule out liposarcoma. (18) The prognosis for SCL is favorable, and excision is curative with a 1-2 percent chance of recurrence. (19).

The lesion must be simply removed to manage SCL (20). In a case study involving 40 cases of SCL, A Chen, Shuai et al. concluded that excision is deemed sufficient in situations where there is no recurrence over an 8-year follow-up (21).

V. CONCLUSION

The authors briefly summarize the histologic features and differential diagnoses of common cutaneous spindle cell neoplasms. Mesenchymal and non-mesenchymal tumors that are partially or mostly made of spindle cells are grouped together as cutaneous neoplasms. The multiple tumor forms that make up this category share a great deal of morphologic similarities, making the diagnosis of cutaneous spindle cell neoplasms frequently difficult. Moreover, correct diagnosis is frequently challenging, particularly in cases where only incomplete or superficial samples are available. Nonetheless, pathologists can reach a definite diagnosis or differential diagnosis of cancers and tumor-like lesions with the aid of a pattern-based diagnostic method. Based on their architectural (growth) patterns, we describe the histologic characteristics and differential diagnoses of common cutaneous spindle cell neoplasms here.

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