

Case Report

A new variant of superficial lipomatosus nevus: a case report

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ABSTRACT

Superficial lipomatosus nevus, or nevus lipomatosus superficialis (NLS), is a benign skin hamartoma characterized by ectopic deposition of mature adipose tissue within the dermis. NLS is a rare type of hamartoma with two clinical forms, namely the classical (multiple) and the solitary type. Diagnosis of NLS requires histopathological examination to confirm its features. Therefore, this study aimed to report a case of a new variant of NLS in a 50-year-old female patient who had an enlarging and troublesome patch on the right side of the neck for the past three years, and was unresponsive to previous treatments. Dermatological examination showed a well-defined macule, measuring 6×3 cm, with erythema, a brownish color, an active edge, and no scaling. Laboratory test results were within normal limits. Initially, the lesion was suspected to be superficial basal cell carcinoma (BCC). The patient was subjected to excision, and histopathology results confirmed NLS. An excision was then carried out to remove the lesion.

Keywords: Superficial lipomatosus nevus, Hamartoma, Nevus lipomatosus superficialis

INTRODUCTION

Hamartoma is derived from the Greek word "hamartion," meaning "defect". This condition is a benign lesion characterized by an overgrowth and irregular growth of normal adult tissue found at the site of the lesion. Although composed of normal tissue, the arrangement and architecture of the tissue within a hamartoma differ from that of the surrounding tissue. Hamartomas appear in various locations on the body, including the skin and soft tissues. Although most of these lesions are benign and asymptomatic, some can cause cosmetic problems, compress surrounding structures, or even undergo malignant transformation. Therefore, accurate recognition and diagnosis of hamartomas are essential to ensure appropriate treatment and prevent complications.¹

Superficial lipomatosus nevus (NLS) is a benign cutaneous hamartoma with ectopic deposition of mature adipose tissue, first reported by Hoffmann and Zurhelle in 1921. The disease has two clinical presentations, namely

the classic or multiple and the solitary type.¹⁻³ The lesions grow slowly with a flat/cerebriform surface, commonly occurring on the flanks, back, gluteal area, and thighs.⁴ Diagnosis of NLS is confirmed by histopathological examination, which shows ectopic deposition of adipose tissue within collagen bundles.¹⁻⁵ This study reports the case of 50-year-old female with an enlarging, bothersome spot on the right neck. This case report was conducted due to its rarity and the underreporting of the condition.

CASE REPORT

A 50-year-old female visited the hospital outpatient clinic complaining of a fungal-like rash on neck behind right ear for past 3 years. Initially reddish, rash later turned reddish-brown and spread. The patient was bothered by rash and consulted a dermatologist, but there was no improvement, and condition was diagnosed as seborrheic dermatitis. Elocon and Bactoderm creams were prescribed but there was no improvement. This patient had a history of hypertension and was taking candesartan 1×16 mg, but there was no history of allergies.

On physical examination, BP was 111/72 mmHg, BT 36.5°C, HR 78 beats/min, BP 20 beats/min, BW 63.4 kg, and BH 158 cm. Dermatological examination showed a well-defined macule measuring 6×3 cm, erythematous, brownish, with more active edges, and scaly (-) in the right posterior cervical region (Figure 1). Laboratory examination was within normal limits and the provisional diagnosis was superficial BCC. The patient underwent excision and samples were taken for histopathological examination (Figure 2 A-C).



Figure 1: Clinical examination.

There was a well-defined macule measuring 6×3 cm, erythematous, brownish in color, with more active edges, scale (-) in the dextra posterior cervical region.

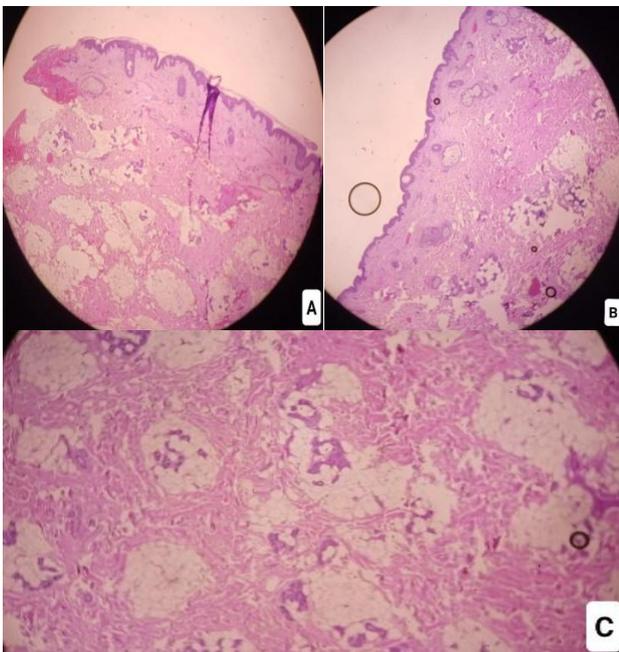


Figure 2 (A-C): Histopathological examination. (A) low power view (×40), (B) medium power view (×100), and (C) high power view (×400).

It showed tissue covered by a mild, polypoid, acanthotic epidermis. The fibrocollagenous stroma was moderately infiltrated with chronic inflammatory cells. Some adnexal and mature adipose tissue were present. No lesions were observed at the incision edges and histology was consistent with cutaneous nevus lipomatosus.

DISCUSSION

NLS is a benign cutaneous hamartoma that often appears as a fleshy or polypoid skin tag. In this condition, adipose tissue is deposited ectopically between collagen bundles in the dermis on histopathological examination. The clinical type resembles a polypoid growth, with a zosteriform pattern, consisting of multiple skin-colored or yellowish, soft, and painless papules or nodules that are present at birth or develop in the first three decades of life. Meanwhile, the solitary type is a single, dome-shaped polypoid papule or nodule that appears in the third to sixth decades of life. Most cases are acquired and are commonly found on the buttocks, upper thighs, and lower back. According to previous studies, malignant transformation has not been reported.^{2,4-8}

This case report presents NLS with a well-defined, erythematous, brownish macule in the right posterior cervical region. This presentation differs from the typical clinical manifestations of NLS. However, histopathology showed mature adipose tissue consistent with NLS. The cause of NLS remains unclear, with several theories proposing mechanisms for the development of ectopic adipose tissue. Ectopic adipocytes are suggested to originate from precursor cells in dermal vessels or pericytes, similar to fetal lipogenesis processes such as mesenchymal perivascular lipoblast differentiation and adipose metaplasia in dermal connective tissue.^{3,5,6}

Supporting examinations are required to diagnose NLS. This was carried out through histopathological examination, which shows exophytic growth and expansion of superficial dermis by mature adipose tissue mixed with collagen fibers. Mature adipose tissue is deposited ectopically between collagen bundles in the dermis. The proportion varies significantly, from less than 10% of the dermis to more than 50%. Adipose tissue is observed around superficial blood vessels. According to previous studies, perivascular infiltration with chronic inflammatory cells was found in the dermis and subcutaneous tissue.^{1-3,5}

Less common histopathologic results include increased basal pigmentation, focal elongation of rete pegs, and reduced adnexal structures. It also includes the presence of abnormal folliculosebaceous structures, such as sebaceous trichofolliculoma, folliculosebaceous cystic hamartoma, and dermoid cysts. Histologic results generally show mature adipocytes in the dermis with normal collagen fibers interspersed between the adipose cells.^{3,5,9} In these cases, the tissue is covered by a mildly acanthotic, polypoid epidermis. The fibrocollagenous stroma is moderately infiltrated with chronic inflammatory cells, with some adnexal and adipose tissue.

The differential diagnosis of NLS includes acrochordons and lipomas. Acrochordons generally have a thin stalk and do not contain mature adipose tissue, such as NLS.

Pedunculated lesions that resemble acrochordons but contain abundant adipose tissue are described in certain reports as pedunculated lipofibromas (a fatty variant of acrochordons), while others refer to these conditions as NLS. Lipomas are usually well-circumscribed and arise in the deep dermis or subcutaneous layer.^{2,5,6} Other differential diagnoses include papilloma (skin tag), plexiform neurofibroma, sebaceous nevus, hemangioma, lymphangioma, focal dermal hyperplasia (Goltz syndrome), connective tissue nevus, vascular malformation, and lipoblastomatosis. This case was initially suspected to be superficial BCC due to the dermatological appearance of erythematous macules, a more active, scaly (-) border, and a rough surface. However, after histopathological examination, mature adipose tissue powder was found in the dermal cells, which was diagnosed as NLS. The case was classified as a new variant of NLS because the clinical appearance did not match the existing forms.

Treatment is generally not necessary except for cosmetic purposes. Surgical excision is curative, and recurrence is rare. Several other methods were used, including CO₂ (carbon dioxide) laser, cryotherapy, intralesional phosphatidylcholine injection, topical corticosteroid application, and electrodesiccation.^{2,3,10,11} In this case, excision to remove NLS was carried out as a curative measure, with satisfactory results.

CONCLUSION

In conclusion, NLS is a rare cutaneous hamartoma with a variety of clinical presentations and unknown etiopathology. In this case, a solitary NLS in an adult is presented with a well-defined macular lesion measuring 6×3 cm, erythematous, brownish, with a more active border and scale (negative) in the right posterior cervical region. The examination shows no evidence of malignant degeneration. Histopathology is important for diagnosing this disease because the clinical presentation resembles a skin tag or other conditions. The case was classified as a new variant of NLS. Histopathologically, mature ectopic adipose tissue was detected, and excision was carried out as a curative measure, due to rare recurrence.

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