

Spitz nevus: a case report of a benign melanocytic neoplasm with a review of recent advances

Nevo de Spitz: relato de caso de uma neoplasia melanocítica benigna com revisão dos avanços recentes

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Abstract

Spitz nevus is a rare benign melanocytic lesion that can clinically mimic benign and malignant dermatological conditions. We report a case of a 22-year-old female who presented with a long-standing, asymptomatic nodule on her left cheek. The lesion was excised due to cosmetic concerns, and histopathological analysis confirmed the diagnosis of Spitz nevus. Given its clinical resemblance to malignant conditions, a complete surgical excision was performed for definitive diagnosis and cosmetic management. Recent studies highlight advances in molecular diagnostics and immunohistochemistry, which help differentiate Spitz nevus from malignant melanocytic neoplasms. This case underscores the necessity of histopathological and molecular evaluation in distinguishing Spitz nevus from other pigmented lesions.

Keywords: Nevus. Benign melanocytic tumor. Spitz tumor.

Resumo

O nevo de Spitz é uma lesão melanocítica benigna rara que pode mimetizar clinicamente condições dermatológicas benignas e malignas. Relata-se o caso de uma doente de 22 anos que apresentava um nódulo assintomático de longa data na face esquerda. A lesão foi excisada devido a preocupações estéticas, e a análise histopatológica confirmou o diagnóstico de nevo de Spitz. Dada a semelhança clínica com condições malignas, foi realizada uma excisão cirúrgica completa para diagnóstico definitivo e tratamento estético. Estudos recentes destacam os avanços no diagnóstico molecular e na imunohistoquímica, que auxiliam na diferenciação do nevo de Spitz das neoplasias melanocíticas malignas. Este caso realça a necessidade de avaliação histopatológica e molecular para distinguir o nevo de Spitz de outras lesões pigmentadas.

Palavras-chave: Nevo. Tumor melanocítico benigno. Tumor de Spitz.

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Introduction

Spitz nevus, first described by Sophie Spitz in 1948, is a benign melanocytic neoplasm commonly seen in young individuals, particularly females¹. Clinically, it can mimic various conditions, including melanoma, basal cell carcinoma, and dermatofibroma, making histopathological examination essential for accurate diagnosis². Although typically benign, complete surgical excision is often recommended due to its difficulty in differentiating it from malignant melanocytic lesions³.

Case report

A 22-year-old female presented to the dermatology outpatient department with a solitary lesion on her left cheek, which had been present for 4 years. The lesion developed insidiously without any preceding history of trauma, insect bites, or inflammation. The patient had no significant personal or family history of skin disorders. She sought medical attention due to cosmetic concerns.

On dermatological examination, the lesion was a well-circumscribed, firm, dome-shaped, oval nodule measuring approximately 1.0 cm × 1.5 cm (Fig. 1). The lesion had a slightly pink hue with mild hyperpigmentation in the centre. The surface was smooth without ulceration, scaling, or crusting. The lesion was not fixed to the underlying structures, and there was no regional lymphadenopathy. Sensory and motor examinations were unremarkable.

Based on the clinical presentation, the differential diagnoses included intradermal nevus, desmoplastic nevus, melanoma, basal cell carcinoma, dermatofibroma, pseudolymphoma, and histoid leprosy.

The lesion was completely excised with primary closure. The excised tissue was sent for histopathological evaluation. Hematoxylin and eosin staining revealed a well-circumscribed dermal lesion composed of large spindle-shaped melanocytic cells arranged in nests (Fig. 2). The nevus cells were symmetrically placed with well-defined clefts between the junctional nests and the surrounding epidermis (Fig. 3). There was mild pigment incontinence, but no cellular atypia or mitotic figures were observed. These findings were consistent with a diagnosis of Spitz nevus.

Discussion

Spitz nevus is a benign melanocytic proliferation that primarily occurs in children and young adults¹. It is characterized by the spindle and epithelioid melanocytes arranged in nests within the dermis or at the dermo-epidermal junction³. Clinically, it can be confused with

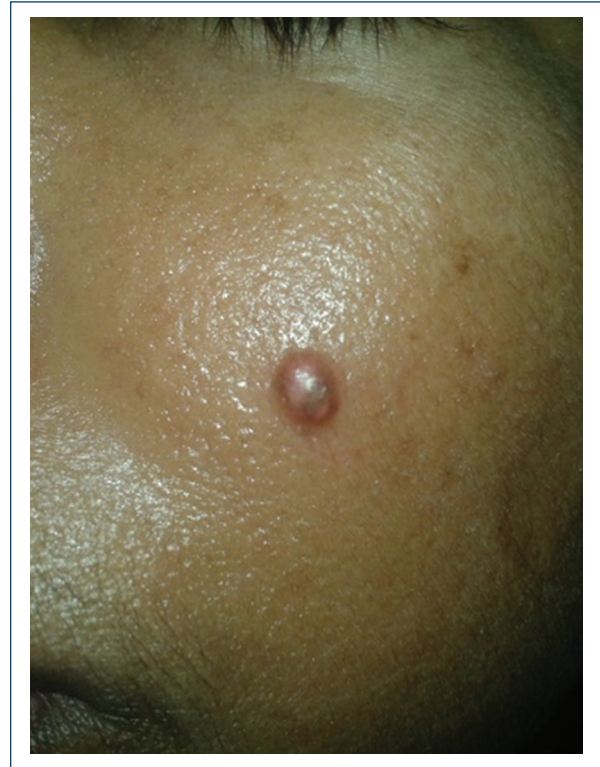


Figure 1. A well-circumscribed dome-shaped nodule on the left side of the face.

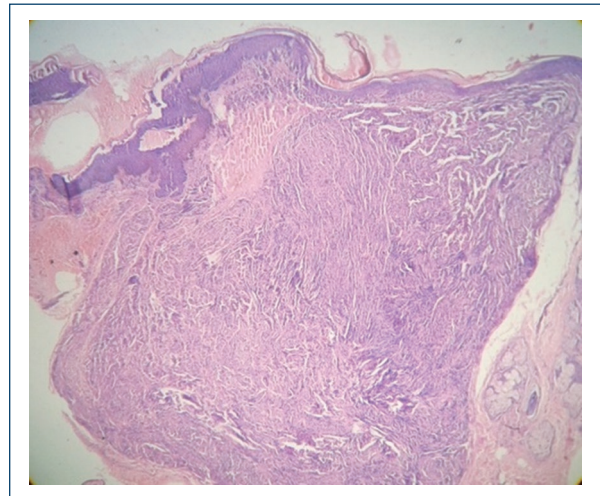


Figure 2. H&E stain (×10 magnification) showing well-circumscribed junctional and dermal nest of spindle-shaped melanocytic cells.

malignant melanocytic lesions, necessitating histopathological confirmation².

Spitz nevus can exhibit a range of histopathological patterns, including conventional (classic), desmoplastic, pigmented, and angiomatoid subtypes⁴. The presence of clefts separating the nevus cells from the epidermis and a well-circumscribed symmetrical

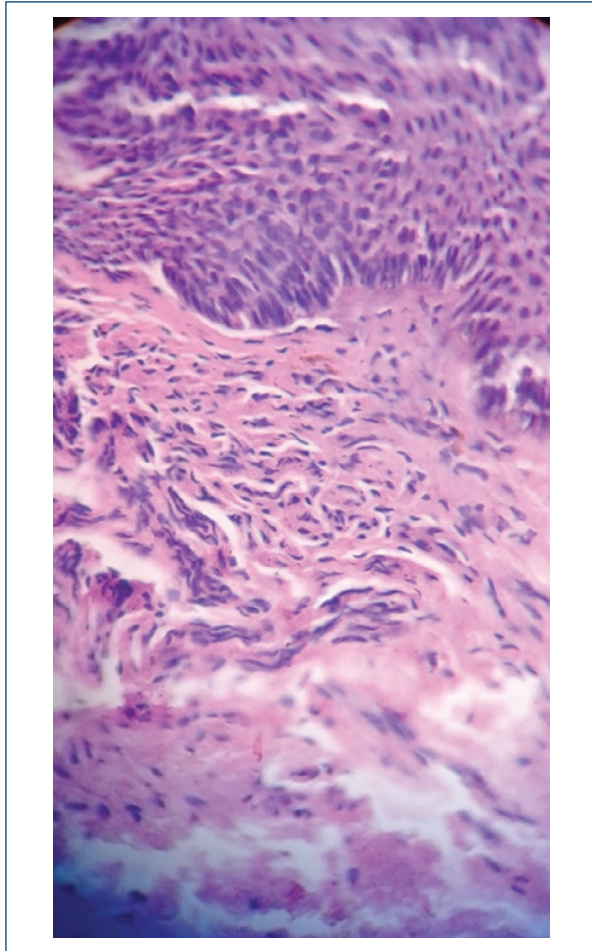


Figure 3. H&E stain ($\times 40$ magnification) showing clefts in between the nests of spindle-shaped nevus cells.

arrangement are distinguishing features⁴. Unlike malignant melanomas, Spitz nevi typically lack significant cellular atypia and mitotic activity⁵.

While Spitz nevus is generally considered benign, rare cases of atypical Spitz tumors with uncertain malignant potential have been reported, necessitating long-term follow-up in select cases³. Recent studies suggest that immunohistochemical markers such as p16, Ki-67, and HMB-45 can aid in distinguishing Spitz nevi from malignant melanomas⁶. In addition, molecular techniques, such as FISH and CGH are proving useful in differentiating atypical Spitz tumors from other melanocytic proliferations⁷. The use of molecular markers, such as HRAS mutations and gene fusions, has been identified in Spitz nevi, offering a new avenue for diagnostic refinement⁷.

The standard treatment for Spitz nevus is complete surgical excision, both for diagnostic purposes and to prevent misdiagnosis⁸.

Conclusion

This case highlights the importance of considering Spitz nevus in the differential diagnosis of solitary pigmented nodules, especially in young individuals. Given its potential for clinical confusion with malignant lesions, histopathological and molecular confirmations remain the gold standard for diagnosis. Complete surgical excision is the preferred management approach for both diagnostic accuracy and cosmetic concerns. The incorporation of molecular and immunohistochemical techniques can enhance diagnostic precision and improve patient management.

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Conflicts of interest

None.

Ethical considerations

Protection of human subjects and animals. The authors declare that no experiments on humans or animals were performed for this research.

Confidentiality, informed consent, and ethical approval. The authors have followed their institution's confidentiality protocols, obtained informed consent from all patients, and secured approval from the Ethics Committee. SAGER guidelines have been followed as applicable to the nature of the study.

Declaration on the use of artificial intelligence (AI). The authors declare that no generative artificial intelligence was used in the writing or creation of the content of this manuscript.

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