

Case Report

Clinical evolution of Spitz nevi

Marian Voloshynovych^{1*}, Cliff Rosendahl², Galyna Girnyk¹, Ivanna Tsidylo¹, Iryna Blaha¹

Abstract

Nevus Spitz is a benign melanocytic proliferation, first described in 1948 by Sophie Spitz as a childhood melanoma. Initially, it was described as an erythematous papule or node, but further studies of the Spitz nevus proved that in 71-92% cases it is a pigmented formation. This pigmentation is often quite intense due to the rapid growth of the formation, which leads to the need for differential diagnosis with skin melanoma. After all, dermatoscopy can be used for this purpose and, when applying this research method, typically a pattern of an exploding star formed by streaks of linear pigmentation and symmetrically located pigment globules placed in the peripheral zone can be revealed. In case of non-pigmented Spitz nevus, spot vessels and reticular depigmentation are visualized. Both pigmented and non-pigmented forms of Spitz nevus in the process of evolution can regress partially or completely. Several clinical cases of different types of spitzoids, both typical and atypical, based on the non-clinical, dermatoscopic and histological diversity of the Spitz nevi, have been demonstrated in the article. Their macroscopic and dermatoscopic features as well as probable signs of dynamic changes are indicated in order to facilitate their recognition by other specialists.

Keywords

dermatoscopy; skin tumors; Spitz nevus; "Prediction without pigment" algorithm; "Chaos and Clues" algorithm

¹Ivano-Frankivsk National Medical University, Ukraine

²School of Medicine, The University of Queensland, Australia

*Corresponding author: mvoloshynovych@gmail.com



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1. Background

Nevus Spitz is a benign melanocytic proliferation, first described in 1948 by Sophie Spitz as a childhood melanoma. [1] Initially, it was described as an erythematous papule or node characterized by rapid growth, and is typically localized on the face or extremities of children or adolescents. However, further studies of the Spitz nevi proved that in 71-92% cases it is a pigmented formation. [2] This pigmentation is often quite intense due to the rapid growth of the formation, which leads to the need for differential diagnosis with skin melanoma. After all, dermatoscopy can be used for this purpose and, when applying this research method, typically a pattern of an exploding star formed by streaks of linear pigmentation and symmetrically located

pigment globules placed in the peripheral zone can be revealed. In case of non-pigmented Spitz nevus, spot vessels and reticular depigmentation are visualized. [3] Histopathologically, the Spitz nevus may be classified as junctional, intradermal and, in the majority of cases, compound. It is formed of large melanocytes, sometimes with nuclear atypia and abundant, rounded, oval, fusiform and polygonal cytoplasm with a fusiform and epithelioid appearance, arranged in nests. [4]

Both pigmented and non-pigmented forms of Spitz nevus in the process of evolution can regress partially or completely. Evolution can manifest itself in the so-called "stardust pattern" symptom present in the peripheral zone bordering on the globular margin. [5]

In atypical cases, spitzoid proliferations look

like nodular pigmented formations, dermatoscopically manifested by a polymorphic or non-specific pattern. If pigmentation is absent, dermatoscopic manifestations remain as spot vessels and white lines. [6]

Based on the clinical, dermatoscopic and histological diversity of Spitz's nevi, we would like to demonstrate several clinical cases of different types of spitzoids.

2. Case Presentation

Patient A., 25-year-old man, came to the clinic to check the skin for atypical nevi. In the anamnesis – the patient is under constant intensive insolation, which is associated with the peculiarities of working outdoors. While examination – on the background of small pigmented nevi in the area of the right thigh, two closely grouped high-intensity spots up to one centimeter in diameter (in general) are revealed. Macroscopically: neoplasms are structurally almost homogeneous, gray-brown with a light brown border, and with slight peeling on the surface (Fig. 1). According to the patient's information, they have existed on the skin for several years, have grown rapidly and have changed in color over time, mainly due to the border. Dermatoscopy shows: two spots are 4x2 and 5x5 mm in size, are presented by the low-structured dark brown center and the pronounced striped pigment pattern, which brightens to periphery (star burst pattern) and turns into diffuse gray pigmentation. The area, which is lateral to the main formations is formed by chaotic, single segmental areas of pigmentation (star dust pattern) (Fig. 2). The analysis of the dermatoscopic image using the Chaos and Clues method was performed, which revealed radial cross-section, eccentrically located low-structure zones, dynamic changes in adulthood, which became the basis for performing excision biopsy. [7] The Spitz nevus was histologically confirmed. The dynamic changes were probably a manifestation of its typical involution.

Patient B., a 19 years old woman, complains about a single rash element localized in the upper third of the anterior abdomen near the midline. Ac-



Figure 1. Patient A. Two closely grouped high-intensity spots in the area of the right thigh.



Figure 2. Patient A. Dermatoscopy. “Star burst” in the center, and “Star dust” around.

According to the patient's history, this formation appeared a few months ago and has grown rapidly. Macroscopically, it is a red papule with a pink border and slight flaking on the surface (Fig. 3). Dermatoscopically, central part is represented by white lines separating the erythema zones and a crust-covered erosion site. To the periphery, the pattern becomes radiant, with white lines interspersed with linear and looped vessels. The border is represented by point vessels (Fig. 4). The analysis of the dermatoscopic image was carried out according to the method of "Prediction without pigment", due to the presence of erosion, white lines and features of the vascular pattern an excision biopsy was performed. [8] Spitz nevus was confirmed.



Figure 3. Patient B. A single rash element in the upper third of the anterior abdominal wall.

A similar clinic was also observed in a 36 years old patient C., who asked advice as to the formation localized on the back in the area of the left scapula (Fig. 5) According to the patient's history,



Figure 4. Patient B. Dermatoscopy. Radiant white lines. The centrally located erosion is covered with crust. Linear, looped and point vessels.

the node grew rapidly, easily injured, and peeled. Dermatoscopically, the picture is similar to changes in patient B. However, the radiant pattern is not so well visualized, with single white circles between the elements of radiance. The central part of the formation is mostly covered by an erosion filled with keratin masses, which are interspersed with areas of hemorrhage (Fig. 6). The formation was removed, histologically verified as keratoacanthoma. Unlike the previous case, the appearance of "white circles", which typically indicate the benefit of keratoacanthoma or squamous cell carcinoma of the skin, is recorded.

Patient D., 16 years old, came to the clinic due to the presence of a single pink node on the posterior surface of the left shin up to 1 cm in size. According to the patient's history, the formation appeared about three years ago as a small spot and quickly grew to its present size. Macroscopically pigment-free node, relatively homogeneous, pink-red in color with a hypochromic crown and a slight large-scale flaking on the surface (Fig. 7) Dermatoscopically, the formation is not homogeneous with



Figure 5. Patient C. The formation is localized on the back in the area of the left scapula.



Figure 6. Patient C. Dermatoscopy. Radiant pattern, single white circles. In the centre, the erosion is filled with keratin masses.

the elements of the white reticular network and the pronounced vascular pattern. In the central part, it is represented by a solitary sinuous vessels, closer to the margin it is represented by glomerulous and pointed and globular vessels in the area of the border (Fig. 8) Based on "white signs" and features of the blood supply of the formation, an excision biopsy was performed. Spitz nevus was diagnosed.



Figure 7. Patient D. Single pin node on the posterior surface of the left shin.

3. Conclusions

Therefore, summarizing the presented clinical cases, we would like to remind that the vast majority of Spitz nevi are pigmented formations with a dermatoscopic symptom of "star burst", and after a certain time of evolution a marginal symptom of "star dust". In non-pigmented cases, the pattern of "star burst"



Figure 8. Patient D. Dermatoscopy. The white reticular network and pronounced vascular pattern are represented by sinuous, glomerular, pointed and globular vessels.

may also be observed, but formed by white lines and blood vessels, and in the course of involution of formation, the arrangement of a hypochromic border will be expected. It should also be remembered that part of the spitsoid formations may not have a typical appearance. In such cases, non-specific dermatoscopic changes may occur along with specific features. In such circumstances, one of the algorithmic methods of analysis should be chosen, an excision biopsy should be performed, whereas dynamic observation should be made only if there is complete assurance in the benign character of the formation.

Informed Consent

Written informed consent was obtained from the patients who participated in this case.

Conflict of Interest

The authors stated no conflict of interest.

Financial Disclosure

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