

## What does dermoscopy tell us about nevus spilus?

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### Abstract:

*Introduction:* Nevus spilus (NS) is a pigmented lesion characterized by multiple macules or pigmented papules within a pigmentation. Initially was described by Burkley in 1842, this nevus has since been the subject of numerous publications, especially with regard to the debates about the appearance of melanomas within the lesion, hence the interest of a dermoscopic examination of screening and monitoring. *Objectives:* Our aim is to describe dermoscopic patterns of NS in a research-based case study. *Materials and methods:* This is a prospective and descriptive study of 20 patients collected in our training over a period of 1 year. *Results:* we collected 20 patients whose average age was 34,5 years with sex-ratio 0.17. Clinically, all nevi were localized confetti macular, for the majority of cases, at the level of the trunk and the extremities. *Ondermoscopy,* the reticular pattern was the most frequent in 08 cases followed by the homogeneous pattern in 07 cases than the mixed pattern: homogeneous patterns - reticular and homogeneous-globular, reticular-granular giving a characteristic sparkler appearance without signs of atypia. One patient underwent a biopsy confirming the diagnosis. None of our patients presented with melanoma. *Conclusion:* Naevus spilus is abenign lesion. However, a melanoma can develop even if it is rare, hence the interest of an exhaustive and regular skin examination with recourse to dermoscopy, showing the atypical aspects requiring excision from the outset.

**Key words:** Spilus, nevus, dermoscopy, sky map appearance,

### Introduction:

Nevus spilus (NS), also known as lentiginous spotted nevus or nevus on nevus, is a nevoid disorder characterised by scattered hyperpigmented macules or papules, congenital or acquired, on a pigmented background. It may be single or multiple as well as associated with other conditions including scoliosis, epidermal nevus, Spitz's nevus, [1] blue nevus [2], lentigo. It is a benign lesion that appeared at birth or in childhood with a zoster-like or regional distribution which poses a diagnostic problem with other pigmentary disorders. Generally, it is an aesthetic problem, however the risk of transformation or development of a melanoma, even if rare, imposes a regular clinical and dermoscopic follow-up with an adequate therapeutic management.

### Objective:

Our aim is to describe dermoscopic patterns of NS in a research-based case study

### Material and methods:

It is a prospective and descriptive study of 20 cases of NS collected in the dermatology department of the Hassan II University Hospital over a period of one year. In all cases, a clinical and dermoscopic examination was performed during a routine dermatological consultation by the same examiner and analyzed by two examiners. All dermoscopic images were examined using a dermlite 4 dermoscope with and without immersion connected to an iPhone XR. In all cases, the diagnosis of NS was based on clinical and dermoscopic images, only one patient had a skin biopsy.

### Results:

We collected 20 cases with a sex ratio of 0.17, whose mean age was 34,5 years, phototypes III and IV were the most frequent. All our patients developed their nevi in childhood except for two patients. The limbs were the most frequent site in 10 patients, followed by the trunk in 09 patients, and the face in one patient. The mean size was 5 cm with extremes of 1cm-10 cm. Clinically, patchy or confetti-like macular NS was found in all cases. All NS were located focally as numerous patchy macules of varying color and size, ranging from light brown to brown and black with a zoster-like pattern in 11 cases and regional in the rest. On dermoscopy, the reticular pattern (figure 1,2) was more frequent (08 cases) than the homogeneous pattern (figure 3) was present in 07 cases while the mixed pattern (figure 4) (05 cases). The mixed pattern consisted of homogeneous-reticular (3 cases) and homogeneous-globular (01 case), reticular-granular (01 case) patterns giving an appearance of sparklers (figure 5). In all our cases, the diagnosis of NS was based on clinical and dermoscopic images. Only one patient had undergone surgical excision with pathological examination in favor of a nevus. No malignant transformation was noted. All our patients were monitored annually (table)



Figure 1: Clinical appearance of macular nevus spilus with Blaschko-linear disposition.

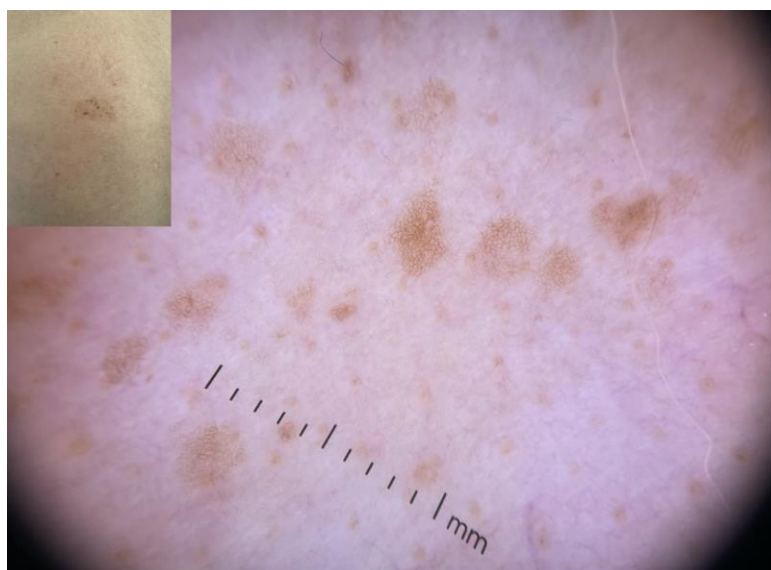


Figure 2: multiple macules arranged in confetti on the back with a reticular pattern on dermoscopy in favor of nevus spilus.

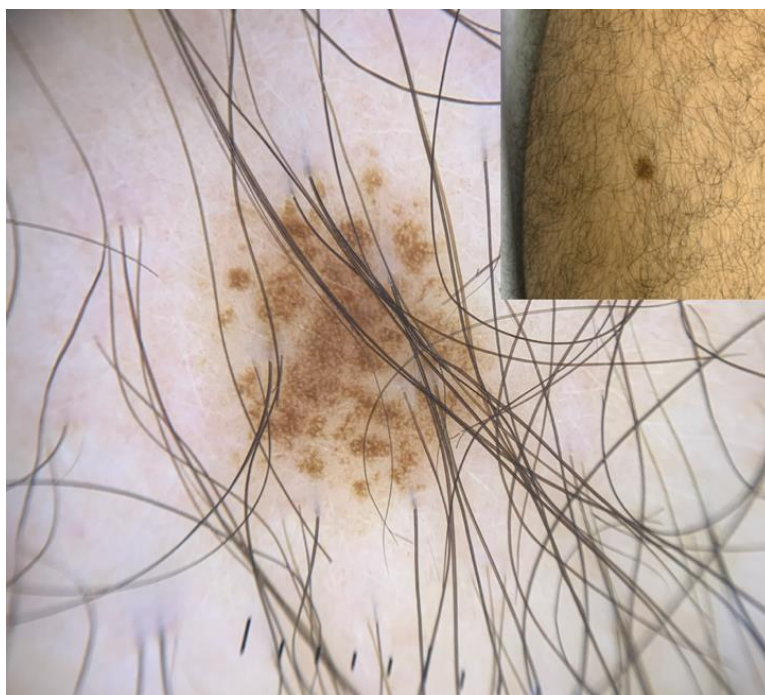


Figure 3: Clinical and dermoscopic appearance of a nevus spilus with a dark brown reticular pattern on a light brown background.



Figure 4: Macular nevus spilus with a homogeneous pattern in dermoscopy.



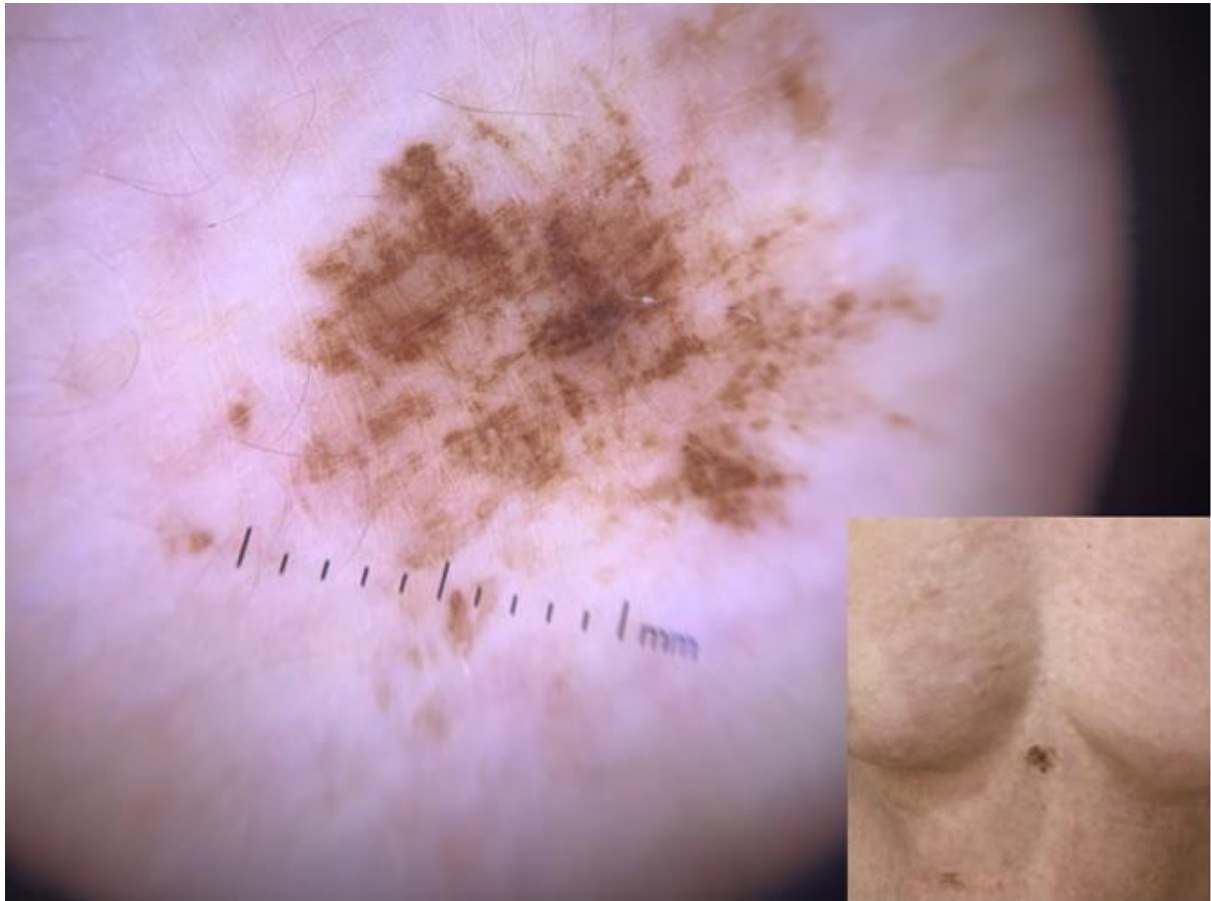


Figure 5: Nevus spilus with mixed pattern: granular, homogeneous, reticular on the trunk.



Figure 6: Clinical and dermoscopic appearance of a nevus spilus with a mixed pattern made up of a reticular-homogeneous pattern.

Table: The epidemio-clinical and dermoscopic profile of the different nevi in our study.

| Patient | Sex | Phototype | Age | Début     | Siège         | Size Cm | Mixed pattern | Homogeneous pattern | Globular pattern | Granular pattern | Reticular pattern | Color            | Background  |
|---------|-----|-----------|-----|-----------|---------------|---------|---------------|---------------------|------------------|------------------|-------------------|------------------|-------------|
| 1       | F   | II        | 28  | Childhood | Right forearm | 6       | +             | +                   | -                | -                | +                 | Brun clair       | Pale        |
| 2       | F   | II        | 26  | Childhood | Right arm     | 5       | +             | +                   | -                | -                | +                 | Brun clair       | Pale        |
| 3       | F   | III       | 14  | Childhood | Left thigh    | 1.5     | -             | -                   | -                | -                | +                 | Dark brown       | Light brown |
| 4       | F   | IV        | 30  | Childhood | Right hand    | 1       | +             | +                   | +                | -                | -                 | Dark/light brown | Light brown |
| 5       | F   | IV        | 39  | Childhood | Neck          | 7       | -             | +                   | -                | -                | -                 | Dark brown       | Light brown |
| 6       | M   | IV        | 40  | Childhood | Right forearm | 5       | -             | +                   | -                | -                | -                 | Dark brown       | Pale        |
| 7       | M   | IV        | 32  | Childhood | Left leg      | 2       | -             | -                   | -                | -                | +                 | Dark brown       | Light brown |
| 8       | F   | IV        | 46  | Childhood | Back          | 8       | -             | -                   | -                | -                | +                 | Light brown      | Pale        |
| 9       | F   | IV        | 39  | Childhood | Thorax        | 4       | -             | +                   | -                | -                | -                 | Dark brown       | Light brown |
| 10      | F   | IV        | 37  | Adult     | Back          | 3       | -             | -                   | -                | -                | +                 | Dark brown       | Light brown |
| 11      | F   | V         | 51  | Childhood | Back          | 8       | -             | +                   | -                | -                | -                 | Brun clair       | Pale        |
| 12      | F   | IV        | 35  | Adult     | Thorax        | 2       | +             | -                   | +                | +                | +                 | Black            | Light brown |
| 13      | F   | III       | 18  | Childhood | Face          | 5       | -             | +                   | -                | -                | -                 | Light brown      | Pale        |
| 14      | F   | III       | 48  | Childhood | Back          | 10      | -             | -                   | -                | -                | +                 | Light brown      | Pale        |
| 15      | F   | IV        | 30  | Childhood | Left armpit   | 10      | +             | +                   | -                | -                | +                 | Light brown      | Pale        |
| 16      | F   | III       | 36  | Childhood | Thorax        | 7       | -             | -                   | -                | -                | +                 | Dark brown       | Light brown |
| 17      | F   | IV        | 42  | Childhood | Left arm      | 4       | -             | +                   | -                | -                | -                 | Dark brown       | Light brown |
| 18      | F   | IV        | 33  | Childhood | Thorax        | 3       | -             | -                   | -                | -                | +                 | Dark brown       | Light brown |
| 19      | F   | IV        | 32  | Childhood | Right forearm | 5.5     | -             | +                   | -                | -                | -                 | Dark brown       | Light brown |
| 20      | M   | IV        | 57  | Childhood | Right forearm | 4       | -             | -                   | -                | -                | +                 | Dark brown       | Light brown |

## Discussion:

Nevus spilus, also known as lentiginous spotted nevus or nevus on nevus, is defined as a café au lait macule with superimposed maculopapular spotting [3]. It may be congenital or acquired [4]. It has no sexual predilection. Although it can affect any site, the trunk and extremities are most often affected [5], as was the case in 15 of our patients. It usually appears in early childhood as in the majority of our patients, but can also appear later in life [6].

The NS was first described by Burkley in 1842, followed by Kaposi in 1887 and Besnier and colleagues in 1902. [7-9]. It is a relatively common entity with a prevalence of 0.2-2.3%, similar to that of congenital nevi in the general population [10]. Clinically, it is a single lesion averaging 4.5 cm and up to 10 cm in size, with segmental, mosaic, zosteriform or extensive distribution made up of several pigmented macules and/or papules generally on a light brown, reticular background. Two subtypes have been described: the macular type and the papular type, with important clinical and histological differences [11] of which the macular type is characterized by dark macules distributed on a light brown background giving a pea-like appearance while the papular type is represented by multiple papules of variable size scattered giving a starry sky map

appearance. The nevus spilus is difficult to distinguish from other pigmentary pathologies such as café au lait spots, agminated lentigines, Becker's hairy pigmented nevus or other simple melanocytic macules.

Dermoscopy describes several macules of variable size in patchy with reticular (most common), homogeneous, globular, spitzoid, or mixed patterns, on a light to dark brown background giving a characteristic appearance resembling magic candles [6]. In typical cases of NS, dermoscopy shows the different aspects: reticular, homogeneous, globular or mixed without signs of atypia as was the case in our patients. The appearance of a solitary central spitzoid structure has also been described. In suspected cases, there is a hyperpigmented area with an irregular appearance [12], asymmetric enlargement, changes in shape or colour [3] within the pigmentation.

The histopathology of the spots in NS can range from lentigines, junctional, compound and intradermal nevi to Spitz, blue and neural nevi, while the pigmented background resembles a café au lait macule [13].

The risk of malignant transformation has been reported more frequently in the macular type [6], size  $\geq 4$  cm [12] or segmental distribution. Nevertheless, surveillance at least once a year is recommended. Recently, Manganoni reported that of 2,134 melanoma patients, 27 had SN in another area of the body, but none of the cases progressed to melanoma [12].

Dermoscopy is recommended as a diagnostic tool in the follow-up and monitoring of any progression to melanoma. The risk of developing melanoma in NS is low, but regular monitoring, self-examination, clinical and dermoscopic photography remain the mainstay of NS management as complete excision of these nevi is difficult [14].

### **Conclusion:**

The NS is a benign lesion, although malignant melanoma can occur within this entity, hence the need for a thorough and regular skin examination with recourse to dermoscopy showing atypical aspects requiring immediate removal.

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*Consent :*

The examination of the patient was conducted according to the Declaration of Helsinki principles.