

WHAT'S YOUR DIAGNOSIS?

PEER REVIEWED

# A Teenager With a Changing Mole on Her Back

---

**Alexander K. C. Leung, MD**

*The University of Calgary and the Alberta Children's Hospital in Calgary, Alberta, Canada*

**Benjamin Barankin, MD**

*Toronto Dermatology Centre in Toronto, Ontario, Canada*

---

Volume 15 - Issue 12 - December 2016

## **AUTHORS:**

**Alexander K. C. Leung, MD**

*University of Calgary and pediatric consultant at the Alberta Children's Hospital in Calgary, Alberta, Canada*

**Benjamin Barankin, MD**

*Toronto Dermatology Centre in Toronto, Ontario, Canada*

## **CITATION:**

Leung AKC, Barankin B. A teenager with a changing mole on her back. Consultant360.

Published July 18, 2017. <https://www.consultant360.com/articles/teenager-changing-mole-her-back>

A 16-year-old girl presented with a “changing mole” on her right upper back. Several asymptomatic pigmented moles had been noted on her back when she was approximately 10 years of age. Two years ago, a white halo had developed surrounding one of the moles (the

biggest one) on the right upper back. Over time, there had been an increase in size of the halo and a decrease in size and pigmentation of the encircled mole. The patient was otherwise in good health, and she had no history of using any topical agents over the lesion. She had no personal or family history of autoimmune disorders or melanoma.



### **PHYSICAL EXAMINATION**

Physical examination revealed a faint pink-colored mole measuring 0.4 by 0.8 cm on the right upper back, surrounded by a depigmented, symmetric macule measuring 2 cm in diameter. There were several melanocytic nevi on the back, with one adjacent to the halo. There were no other cutaneous or systemic abnormalities.

### **WHAT'S YOUR DIAGNOSIS?**

*Answer on next page.*

WHAT'S YOUR DIAGNOSIS?

PEER REVIEWED

# A Teenager With a Changing Mole on Her Back

---

**Alexander K. C. Leung, MD**

*The University of Calgary and the Alberta Children's Hospital in Calgary, Alberta, Canada*

**Benjamin Barankin, MD**

*Toronto Dermatology Centre in Toronto, Ontario, Canada*

---

Volume 15 - Issue 12 - December 2016

## **ANSWER: Halo nevus**

Halo nevus, also known as leukoderma acquisitum centrifugum or Sutton nevus, refers to a benign, mostly acquired, melanocytic nevus surrounded by a rim of depigmentation, resembling a halo.<sup>1,2</sup> The condition was first described by Sutton in 1916 under the name *leucoderma acquisitum centrifugum*.<sup>3</sup>



## **EPIDEMIOLOGY**

Although all skin colors are susceptible to the development of halo nevi, fair-skinned persons (phototypes 1, 2, and 3) are more commonly affected than are dark-skinned persons (phototypes 4, 5, and 6).<sup>4,5</sup> The incidence in the white population is estimated to be approximately 1%.<sup>6,7</sup> The condition is common in children and young adults, with a mean age at onset of 15 years.<sup>2,6,7</sup> The sex ratio is approximately equal.<sup>1</sup> Most cases are sporadic, but familial cases also have been described.<sup>2,8</sup>

## **ETIOPATHOGENESIS**

In the majority of cases, the cause is idiopathic.<sup>7</sup> Sometimes, the condition may follow chronic exposure to ultraviolet radiation, especially after sunburn, topical application of bleaching agents, radiotherapy, subcutaneous interferon beta-1a therapy, and systemic administration of imatinib.<sup>9-13</sup> Individuals with Turner syndrome and autoimmune diseases such as Hashimoto thyroiditis, vitiligo, alopecia areata, and celiac disease are at increased risk.<sup>4,7,14,15</sup> An immune response mediated by cytotoxic CD8<sup>+</sup> T lymphocytes plays an important role in the destruction of melanocytes in the halo nevus, resulting in the formation of the depigmented area.<sup>6,16</sup>

## **HISTOPATHOLOGY**

Histologic examination of a halo nevus typically reveals a bandlike lymphocytic infiltrate consisting mainly of T lymphocytes in the papillary dermis in the halo area, absence of nevus cells alongside the lymphocytic infiltrate, and nests of nevus cells centrally.<sup>6,17</sup>

## **CLINICAL MANIFESTATIONS**

Clinically, the halo nevus presents as a melanocytic nevus, often acquired, surrounded by a rim of depigmentation resembling a halo.<sup>6</sup> The acquired melanocytic nevus can be intradermal, junctional, or compound.<sup>4</sup> A minority of halo nevi develop from congenital melanocytic nevi.<sup>16</sup> The halo is best visualized with a Wood lamp.<sup>7</sup> The size of the nevus itself is highly variable and ranges from a few millimeters to several centimeters.<sup>4</sup> The diameter of the halo usually ranges from 1 mm to several centimeters.<sup>4</sup>

The site of predilection is the trunk, especially the upper back.<sup>6</sup> Less commonly, halo nevi are found on the head and neck, and rarely on the limbs, groin, and axillae.<sup>6</sup> Halo nevi are asymptomatic and occur most often as a solitary lesion.<sup>18</sup> Multiple lesions are uncommon unless they are associated with an autoimmune disease; the nevi may be clustered.<sup>2,18,19</sup>

Over time, halo nevus undergoes specific changes.<sup>17,19-21</sup> The central nevus may remain brown in color—the classic form of halo nevus (stage 1) or its pigment can disappear leading to a pink-colored papule (stage 2).<sup>20</sup> Eventually, the central nevus may disappear, leading to a circular area of depigmentation (stage 3).<sup>20</sup> Finally, the depigmented area may repigment, leaving no trace of its existence. Not all halo nevi evolve through the last 3 stages, and they can halt their development at any stage.<sup>19</sup>

## **DIAGNOSIS**

The diagnosis is a clinical one and can be aided by dermoscopy. Dermoscopy typically shows the following patterns: uniform globular pattern, cobblestone pattern, structureless nonpigmented pattern, structureless brown pattern, reticular pattern, and reticular pattern with blue granules with or without scarlike areas.<sup>18</sup> A biopsy is usually not necessary unless there are atypical features such as asymmetry of the lesion, irregular border, color variegation, eccentric placement of the pigmented portion, or size of the lesion greater than 6 cm, which can suggest a possible regressing melanoma.<sup>22</sup>

## **DIFFERENTIAL DIAGNOSIS**

Differential diagnoses include blue nevus, Spitz nevus, dysplastic nevus, pityriasis lichenoides, dermatofibroma, neurofibroma, verruca vulgaris, molluscum contagiosum, mongolian spot, café au lait spot, seborrheic keratosis, histiocytoma, and a regressing melanoma.<sup>7,16</sup> The presence of a zone of hypopigmentation (halo) surrounding a variety of skin lesions is referred to as the halo phenomenon.<sup>1,17</sup>

## COMPLICATIONS AND PROGNOSIS

The nevus can be cosmetically unsightly and an esthetic concern if it occurs in an exposed area. Malignant transformation has not been reported in the pediatric age group.<sup>22</sup> The prognosis is excellent. In a study of 49 patients with untreated halo nevi, 25 patients (51%) had no change in the halo or nevus after an average of 4.2 years; 7 patients (14.3%) demonstrated partial nevus regression with persistence of the halo after an average of 6.7 years, 2 patients (4.1%) demonstrated complete involution of the nevus with persistent halo depigmentation after an average of 7.7 years; 4 patients (8.2%) demonstrated complete nevus involution with some repigmentation of the halo after an average of 11.8 years, and 11 patients (22.4%) demonstrated complete resolution of the nevus with complete repigmentation of the halo after an average of 7.8 years.<sup>1</sup>

## MANAGEMENT

Halo nevi are benign and generally do not require any intervention.

## REFERENCES:

1. Aouthmany M, Weinstein M, Zirwas MJ, Brodell RT. The natural history of halo nevi: a retrospective case series. *J Am Acad Dermatol*. 2012;67(4):582-586.
2. Kolm I, Di Stefani A, Hofman-Wellenhof R, et al. Dermoscopy patterns of halo nevi. *Arch Dermatol*. 2006;142(12):1627-1632.
3. Sutton RL. An unusual variety of vitiligo (leucoderma acquisitum centrifugum). *J Cutan Dis Incl Syph*. 1916;34:797-800.
4. Ezzedine K, Diallo A, Léauté-Labrèze C, et al. Halo nevi association in nonsegmental vitiligo affects age at onset and depigmentation pattern. *Arch Dermatol*. 2012;148(4):497-502.
5. Pellegrini JR, Wagner RF, Jr, Nathanson L. Halo nevi and melanoma. *Am Fam Physician*. 1984;30(2):157-159.
6. Price A, Polley DC, Saol ME, Elston DM. Dermal quiz: an irregularly colored papule on the back of an adolescent female. *Indian Dermatol Online J*. 2015;6(suppl 1):S50-S52.
7. Pustisek N, Sikanić-Dugić N, Hirsl-Hećej V, Domljan ML. "Halo nevi" and UV radiation. *Coll Antropol*. 2010;34(suppl 2):295-297.
8. Herd RM, Hunter JA. Familial halo naevi. *Clin Exp Dermatol*. 1998;23(2):68-69.
9. Fava P, Stroppiana E, Savoia P, Bernengo MG. Halo nevi related to treatment with imatinib in a dermatofibrosarcoma protuberans patient. *J Eur Acad Dermatol Venereol*. 2010;24(2):244-245.



10. Kawaguchi A, Yamamoto T, Oubo Y, Mitsuhashi Y, Tsuboi R. Multiple halo nevi subsequent to a short period of sunbathing. *J Dermatol*. 2015;42(5):543-544.
11. Rados J, Pastar Z, Lipozencić J, Ilić I, Stulhofer Buzina D. Halo phenomenon with regression of acquired melanocytic nevi: a case report. *Acta Dermatovenerol Croat*. 2009;17(2):139-143.
12. Sarici AM, Shah SU, Shields CL, Birdsong RH, Shields JA. Cutaneous halo nevi following plaque radiotherapy for uveal melanoma. *Arch Ophthalmol*. 2011;129(11):1499-1501.
13. Vera-Iglesias E, García-Arpa M, Sánchez-Caminero P. Halo nevi associated with interferon beta-1a therapy. *Actas Dermosifiliogr*. 2012;103(1):75-76.
14. Bello-Quintero CE, Gonzalez ME, Alvarez-Connelly E. Halo nevi in Turner syndrome. *Pediatr Dermatol*. 2010;27(4):368-369.
15. Brazzelli V, Larizza D, Martinetti M, et al. Halo nevus, rather than vitiligo, is a typical dermatologic finding of Turner's syndrome: clinical, genetic, and immunogenetic study in 72 patients. *J Am Acad Dermatol*. 2004;51(3):354-358.
16. Park HS, Jin SA, Choi Y-D, Shin M-H, Lee SE, Yun SJ. Foxp3<sup>+</sup> regulatory T cells are increased in the early stages of halo nevi: clinicopathological features of 30 halo nevi. *Dermatology*. 2012;225(2):172-178.
17. Inamadar AC, Palit A, Athanikar SB, Sampagavi VV, Deshmukh NS. Unusual course of a halo nevus. *Pediatr Dermatol*. 2003;20(6):542-543.
18. Kamińska-Winciorek G, Szymshal J. Dermoscopy of halo nevus in own observation. *Postepy Dermatol Allergol*. 2014;31(3):152-158.
19. Patrizi A, Bentivogli M, Raone B, Dondi A, Tabanelli M, Neri I. Association of halo nevus/i and vitiligo in childhood: a retrospective observational study. *J Eur Acad Dermatol Venereol*. 2012;27(2):e148-e152.
20. Huynh PM, Lazova R, Bologna JL. Unusual halo nevi—darkening rather than lightening of the central nevus. *Dermatology*. 2001;202(4):324-327.
21. Kay KM, Kim JH, Lee TS. Poliosis of eyelashes as an unusual sign of a halo nevus. *Korean J Ophthalmol*. 2010;24(4):237-239.
22. Lai C-H, Lockhart S, Mallory SB. Typical halo nevi in childhood: is a biopsy necessary? *J Pediatr*. 2001;138(2):283-284.