Case Report

Physiological Striae Atrophicae of Adolescence with Involvement of the Upper Back

Alexander K. C. Leung¹ and Benjamin Barankin²

¹ Department of Pediatrics, the University of Calgary, the Alberta Children's Hospital, No. 200, 233–16th Avenue NW, Calgary, AB, Canada T2M 0H5
² Toronto Dermatology Centre, Toronto, ON, Canada M3H 5Y8

Correspondence should be addressed to Alexander K. C. Leung; aleung@ucalgary.ca

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We report a 13-year-old boy with multiple purplish, atrophic, horizontal linear striae in the thoracic area. He reported a growth spurt in the preceding 12 months. His past health was unremarkable, and he took no medications. To our knowledge, physiological striae atrophicae of adolescence where idiopathic striae were restricted to the upper back have rarely been reported.

1. Introduction

Physiological striae atrophicae of adolescence occurs mainly in healthy, nonobese individuals at around puberty in association with the adolescent growth spurt. The development of striae coincides with the markers of adolescence such as testicular enlargement, breast development, pubic hair growth, and menarche. By definition, there is no identifiable underlying cause such as an endocrine or connective tissue disorder. The condition is more common in boys, presumably because boys grow faster than girls around puberty. The onset of striae is usually between 14 and 20 years of age in males and 10 and 16 years of age in females [1]. We describe a 13-year-old boy with physiological striae atrophicae of adolescence presenting with multiple transverse striae on the upper back. To our knowledge, physiological striae of adolescence where idiopathic striae were restricted to the upper back have rarely been reported.

2. Case Report

A 13-year-old boy presented with multiple transverse striae on the upper back. The striae were first noted six months ago. There was no history of trauma, excessive physical exertion, or weight lifting. He was otherwise healthy and was not taking medications. The child had gained 10.9 kg and had grown 15.8 cm over the preceding 12 months. No family members had similar skin lesions.

On examination, his weight was 55 kg (75th percentile) and height 160 cm (50th percentile). His heart rate was 68 beats per minute and blood pressure 110/70 mm Hg. Multiple purplish, atrophic, horizontal linear striae were noted at the back in the thoracic area (Figure 1). His pubic hair was in the Tanner stage 3 of development. He had testicular enlargement compatible with his chronological age. The penile size was normal for his age. He had some acne on his forehead. He also had axillary hair. The rest of the physical examination was unremarkable.

3. Discussion

Physiological striae atrophicae of adolescence typically presents as red or purple, horizontal, linear streaks (striae rubra) in the lumbar area [2]. Over time, the color fades and the lesions become atrophic and silvery (striae alba). They are usually several cm long and 1 to 10 mm wide, with the long axis perpendicular to the direction of skin tension.
Physiological striae of adolescence have to be differentiated from linear focal elastosis. The latter is characterized by asymptomatic yellow linear palpable bands, usually horizontally across the lower back.

Physiological striae of adolescence have been mistaken for nonaccidental injury. Heller reported two 13-year-old boys who were referred to the social services department because they had physiological striae manifested as horizontal linear marks in the lumbar and lumbosacral area, respectively [14]. Cohen et al. reported 4 adolescents with physiological striae; three of them with striae in the lumbar area were suspected by their school nurse to have been physically abused and the fourth child with striae in the lumbosacral area was suspected by his general practitioner as physical abuse [15]. Burk et al. reported a 15-year-old boy with violaceous, atrophic, horizontal striae on his lumbosacral region; the pediatrician of this child referred him to social services for investigation of child abuse [3]. Robinson et al. reported a 15-year-old boy with numerous striae on the back [16]. The child alleged that the striae might have been inflicted on him by his grandmother through her occult powers although he had not seen his grandmother for several years. A dermatologist was consulted and a diagnosis of striae distensae was made. Recently, Masand described a 16-year-old boy whose physiological striae on his back were suspected by the emergency department staff as a result of nonaccidental injury [17]. The child was later reviewed by a pediatrician who diagnosed these as physiological striae of adolescence. Thus, it is important for child care professionals to be familiar with the benign nature of the condition in order to prevent false accusations of child abuse. This is especially so if the striae occur in the upper back—an unusual site for physiological striae of adolescence.

References

[1] P. Basak, S. Dhar, and A. J. Kanwar, “Involvement of the legs in idiopathic striae distensae—a case report,” Indian Journal of Dermatology, vol. 34, no. 1, pp. 21–22, 1989.

[2] Y. Y. Mishriki, “Asymptomatic “streaks” in a healthy young man,” Postgraduate Medicine, vol. 107, no. 4, pp. 237–240, 2000.

[3] C. J. Burk, B. Pandrangi, and E. A. Connelly, “Picture of the month,” Archives of Pediatrics and Adolescent Medicine, vol. 162, no. 3, pp. 277–278, 2008.
[4] F. Parkes Weber, ““Idiopathic” striae atrophicae of puberty,” The Lancet, vol. 226, no. 5851, pp. 885–886, 1935.
[5] D. B. Rosenthal, “Striae atrophicae cutis,” The Lancet, vol. 229, no. 5923, pp. 557–560, 1937.
[6] W. B. Shelley and W. Cohen, “Stria migrans,” Archives of Dermatology, vol. 90, pp. 193–194, 1964.
[7] J. Savage, “Stria migrans,” British Journal of Dermatology, vol. 77, pp. 472–473, 1965.
[8] H. W. Linn, “Transverse striae atrophicae of the back,” Australasian Journal of Dermatology, vol. 9, no. 4, pp. 352–353, 1968.
[9] K. Feldman and W. G. Smith, “Idiopathic striae atrophicae of puberty,” Canadian Medical Association Journal, vol. 176, no. 7, pp. 930–931, 2007.
[10] R. D. Carr and J. F. Hamilton, “Transverse striae of the back,” Archives of Dermatology, vol. 99, no. 1, pp. 26–30, 1969.
[11] S. Cho, E. S. Park, D. H. Lee, K. Li, and J. H. Chung, “Clinical features and risk factors for striae distensae in Korean adolescents,” Journal of the European Academy of Dermatology and Venereology, vol. 20, no. 9, pp. 1108–1113, 2006.
[12] G. S. S. Atwal, L. K. Manku, C. E. M. Griffiths, and D. W. Polson, “Striae gravidarum in primiparae,” British Journal of Dermatology, vol. 155, no. 5, pp. 965–969, 2006.
[13] F. V. Basile, A. V. Basile, and A. R. Basile, “Striae distensae after breast augmentation,” Aesthetic Plastic Surgery, vol. 36, pp. 894–900, 2012.
[14] D. Heller, “Lumbar physiological striae in adolescence suspected to be non-accidental injury,” British Medical Journal, vol. 311, no. 7007, p. 738, 1995.
[15] H. A. Cohen, A. Matalon, A. Mezger, D. B. Amitai, and A. Barzilai, “Striae in adolescents mistaken for physical abuse,” Journal of Family Practice, vol. 45, no. 1, pp. 84–85, 1997.
[16] A. L. Robinson, G. A. Koester, and A. Kaufman, “Striae vs scars of ritual abuse in a male adolescent,” Archives of Family Medicine, vol. 3, no. 5, pp. 398–399, 1994.
[17] M. Masand, “Physiological striae in adolescence: not physical abuse,” Emergency Medicine Journal, vol. 29, no. 1, p. 9, 2012.