Lumbar physiological striae in adolescence suspected to be non-accidental injury

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Physiological striae are common in adolescence and should not be mistaken for physical abuse

Physiological striae in adolescence may be mistaken for non-accidental injury. Early recognition that these lesions are not a manifestation of physical abuse will avoid embarrassment to and inconvenience for patients, their families, and their general practitioners.

Case reports

CASE 1

A 13 year old boy presented to his general practitioner with symptoms of a respiratory infection; during the examination the doctor noted horizontal linear marks on the back. No explanation for these seemed satisfactory and he was referred to the social services department in accordance with local child protection procedures because of a suspicion of physical abuse. Examination by a local community paediatrician was arranged in turn.

There was no history of injury, accidental or otherwise. Rapid linear growth over the previous few months was noted and later confirmed from school records. On examination, he had several horizontal linear striae in the lumbosacral region that were raised and had an angry red appearance. They were characteristic physiological striae and all parties were reassured as to their benign nature.

CASE 2

A 13 year old boy attended his general practitioner with a history of a fall and complaining of pain on the right side of the back. On examination several purplish, atrophic, horizontal linear marks were noted over the lumbar region that were thought to be scars resulting from chastisement. The case was referred to the local social services department. Examination, initially by a consultant community paediatrician and subsequently a consultant dermatologist, confirmed the lesions to be physiological striae. He had grown appreciably in height during the previous year, although serial objective measurements were not available.

Discussion

Striae are familiar in pregnancy, are commonly seen in obesity, and can occur in association with endocrine and connective tissue disorders or the use of steroids. Transverse striae of the lower back in adolescence were first reported in the 1930s¹ and these lesions were rediscovered in the 1960s, when the stress of repeated heavy lifting was thought to be a cause.² Other suggestions have included mild physiological hyperadrenalism at the time of striae formation but not detectable later on endocrine investigation, and stretching, which may occur with obesity or during the adolescent growth spurt.³

Physiological striae are common in adolescence. The prevalence of transverse striae of the back in 1037 young reserve officer training corps cadets in the United States was 5.4%,³ the prevalence of striae in any location among 190 healthy adolescents was 35%.⁴ Common sites are the gluteal region, upper thighs, breasts, lower abdomen, and back.

Physiological striae could be mistaken for non-accidental injury,⁵ as occurred in these two cases. Recognition of physiological striae rests on an awareness of the condition and an adequate history and examination. Characteristically, they occur in non-obese adolescents undergoing rapid linear growth with no evidence of endocrine or connective tissue disorder. There is no history of physical injury, either accidental or otherwise, and no disclosure of abuse. On examination perhaps the most helpful feature is that they look like the striae of pregnancy and obesity so familiar to general practitioners and, like such striae, occur at right angles to the direction of maximal tissue growth. Thus when they occur on the lower back they are horizontal, often with many striae of varying length running parallel (figure). Initially they can be pink, red, or violaceous and may appear inflamed and almost haemorrhagic with raised edges. They may persist like this for several months before fading and flattening to become much less prominent white scars.

For general practitioners the incidental finding of clinical features that raise the suspicion of physical abuse requires careful evaluation; in both these cases an appropriate referral was made. Alternatively a general practitioner confronted with an unusual presentation of possible physical abuse could confer with a more experienced colleague who might appropriately be the local consultant community paediatrician.

An early report of physiological striae states that the marks were "very annoying to the patient during summer at the seaside in regard to bathing,"¹ and both patients in the two cases reported here were extremely self conscious of their appearance. In addition to the obvious desirability of accurate clinical assessment, recognition of physiological striae will allow a doctor to reassure the young person that the lesions will fade considerably over the coming years.

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1 Parkes Weber F. Idiopathic striae atrophicae of puberty. *Lancet* 1935;ii:885-6.

2 Shelly WB, Cohen W. Stria migrans. *Arch Dermatol* 1964;90:193-4.

3 Carr RD, Hamilton JF. Transverse striae of the back. *Arch Dermatol* 1969;99:26-30.

4 Sisson WR. Coloured striae in adolescent children. *J Pediatr* 1954;45:520-30.

5 Grantham VA. Lumbar striae in adolescents. *Practitioner* 1982;226:1311-2.

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Typical appearance of lumbar physiological striae (not from cases reported here)

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