

# Striae in Adolescents Mistaken for Physical Abuse

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Physiological striae are common in adolescence, occurring in the lumbar and gluteal regions, the upper thighs, breast, lower abdomen, and back. The lesions may be mistaken for nonaccidental injury, that is, physical abuse.

We present four cases of adolescents with lesions thought to be due to physical abuse. Three of these cases were revealed during a school screening program for scoliosis; of the 2600 adolescents screened, aged 12 to 16 years, 168 were found to have striae. One case was found by a family physician when a young boy presented with low back pain.

Since striae may be mistakenly ascribed to physical abuse, it is important for family physicians, nurses, and pediatricians to be familiar with this benign condition.

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Physiological striae, also known as atrophic striae or "stretch marks," are lines or bands of thin, reddened skin, which later become white, smooth, shiny, and depressed. They commonly occur in the lumbar and gluteal regions, the upper thighs, breast, lower abdomen, and back.<sup>1</sup>

Physiological striae are common in adolescence,<sup>2</sup> and may be mistaken for physical abuse.<sup>1,3</sup> In a 3-year routine screening program for scoliosis of 2600 adolescents, aged 12 to 16 years, physiological striae were observed in 168 (6.5%) adolescents: 107 girls (4.1%) and 61 boys (2.3%). Some students had striae in more than one location: lumbar horizontal striae were documented in 47 cases (1.8%), the gluteal region in 31 cases (1.2%), the lower abdomen in 97 cases (3.7%), the upper thigh in 69 cases (2.6%), and the breast in 58 cases (2.2%).

As a result of the screening program, three students with physiological lumbar striae were suspected by their school nurse to have been physically abused; in a fourth child, his general practitioner suspected physical abuse as a result of these striae.

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## ■ CASE REPORTS

### Case 1

A 14-year-old boy complained to his family physician of low back pains. During the examination, the physician noted horizontal linear marks on the patient's lumbosacral area (Figure). Because he suspected physical abuse, the physician reported the case to the community social services, who initiated child protection procedures. Examination of the patient by a pediatric dermatologist revealed physiological horizontal lumbar striae, and no history of injury, accidental or otherwise, was obtained. It was noticed, however, that the child had grown very rapidly in height over the preceding 7 months.

The patient and his family were reassured of the benign nature of the cutaneous lesions.

### Cases 2, 3, and 4

During a scoliosis screening program at a junior high school, 2600 adolescents aged 12 to 16 years were examined. Two girls and one boy were suspected by the school nurse of having been physically abused, because she noted horizontal striae on the back (2 cases) and horizontal striae on the gluteal area (1 case).

There did not appear to be any satisfactory explanation for these lesions, so the children were referred to the school and community social services, in accordance with standard child protective procedures.

The three adolescents were also examined by



their primary care physicians and were referred for a second opinion to a pediatrician (2 cases) and a pediatric dermatologist (1 case). A diagnosis of physiologic atrophic striae was made, and the patients and parents were reassured regarding the benign nature of these cutaneous lesions.

## DISCUSSION

Striae are commonly seen in obese and pregnant patients, in those with endocrine and connective tissue disorders, and in patients who use steroids.<sup>1</sup> In the early stage, they can be pink, red, or violaceous and may appear inflamed and almost hemorrhagic with raised edges. They may persist for several months before fading and flattening to become much less prominent white scars.

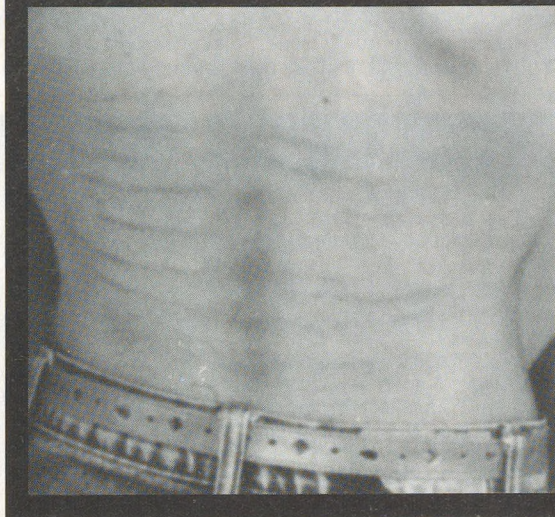
The pathogenesis of atrophic striae is unclear. It has been suggested that they occur as a result of transient, mild, physiological hyperadrenalism that is not detectable later by endocrine investigation. It has also been suggested that they occur as a result of stretching that may occur with obesity or during the adolescent growth spurt.<sup>4</sup>

In girls, striae are most often seen on the breast, lower abdomen, and gluteal region, and are found along the long axis of the body. In boys, the striae are commonly seen along the long axis of the thighs, lower abdomen, and gluteal area, but in the lumbosacral area they tend to be transverse.<sup>5</sup>

The recognition of physiological striae depends on an awareness of the condition and an adequate history and examination. Characteristically, they occur in nonobese adolescents undergoing rapid linear growth, with no evidence of endocrine or connective tissue disorder. For these striae to occur, there need be no history of physical injury, either accidental or as a result of physical abuse. On examination, perhaps the most diagnostically helpful feature of lumbar striae is that they look like striae of pregnancy and obesity and occur at right angles to the direction of maximal tissue growth. When striae occur on the lower back, they are horizontal, often with many parallel striae of varying lengths (Figure). Over time, the

## FIGURE

While examining a 14-year-old boy, the physician noted linear marks on the patient's lumbosacral area and referred the case to social services because he suspected abuse.



cutaneous lesions of physiologic striae will become less pronounced. In patients with red striae, topical application of tretinoin may cause significant improvement.<sup>6</sup>

For family physicians, the incidental findings of striae may raise the suspicion of physical abuse, as in the four cases described, where referral to social services was initiated in order to "protect" the child. Early recognition that these lesions are not a manifestation of physical abuse will avoid embarrassment and inconvenience for patients, their families, and their family physicians.

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