CASE REPORT

A teenager with lumbar striae distensae (when a bruise is not a bruise)

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SUMMARY

A 14-year-old boy was referred to a paediatric clinic after a recent diagnosis of coeliac disease, which was well controlled on a gluten-free diet. During the consultation, the mother raised concerns regarding marks that had developed over her son's back over the past 6 months. On examination, a number of horizontal, coloured bruise-like marks were noted over the lower back. The appearance was suspicious of bruising and possible non-accidental injury, although a history of trauma or injury was denied. Blood tests including a coagulation screen were arranged which were normal and the patient was followed up twice during a 6-month period. He remained well but the bruising was persistent. It was concluded that these were striae associated with pubertal growth. This case summarises the importance of careful surveillance of bruising in children and illustrates the association between striae and pubertal growth which may be confused with non-accidental injury.

BACKGROUND

A diagnosis of non-accidental injury is an extremely important one that is not only distressing for those involved but also has serious implications on the future care of the child. As a result, such a diagnosis should only be given with good supporting evidence. Striae distensae, also known as stretch marks, are relatively common; however, their association with pubertal growth remains less recognised. Furthermore, striae overlying the lumbar region can be misinterpreted as bruising secondary to belt marks. This case illustrates the need to increase awareness of striae as a normal phenomenon during pubertal growth in order to avoid misdiagnosis as non-accidental injury.

CASE PRESENTATION

A 14-year-old boy was seen in a paediatric outpatient clinic after having recently been diagnosed with coeliac disease. A gluten-free diet was started, and he remained well and asymptomatic. During the consultation, the mother voiced concerns regarding some marks that had appeared on his lower back, which she stated had been present for the past 6 months. These marks were painless, non-pruritic and caused no discomfort.

On examination, he appeared well. He was well perfused and there was no pallor, jaundice, cyanosis or lymphadenopathy. On inspection, there were a number of marks distributed over the lower back in a horizontal pattern. They measured approximately 0.5 cm in width and 15 cm in length and had a red

coloured appearance. The appearance was suspicious of bruising, although they were confluent with the adjoining normal skin and were all of a similar colour. There were no other marks or bruises elsewhere and the systemic examination was normal. On direct questioning with the mother and son, a history of trauma or injury was denied.

INVESTIGATIONS

Blood tests were carried out including a full blood count, coagulation, routine biochemistry and a repeat coeliac screen. Photographic imaging of the lower back was also performed (see figures 1 and 2).

DIFFERENTIAL DIAGNOSIS

Striae are more commonly associated with changes in weight such as that seen in obese individuals or pregnant ladies.¹ However, other less common causes that should be considered include Cushing syndrome and connective tissues diseases such as Marfan syndrome.¹ Cushing syndrome often has other symptoms and signs such as weight gain, fatigue, high blood pressure and a cushingoid appearance of the face. Also the striae are characterised by their inordinate breadth, depth and intense colour. Any indication of this based on the history and examination should prompt further investigation into adrenocortical function.

In this situation, non-accidental injury was the main differential diagnosis, with obvious ramifications on the adolescent and his family if this had been considered to be the diagnosis. The odd location of the striae and the transverse pattern could have been interpreted as signs of abuse such as that inflicted by belt markings and, consequently, there have been reports of such cases being wrongly investigated as child abuse, thus subjecting the child and family to unnecessary distress.^{2 3} It is only after other differentials are excluded that a

Figure 1 Photograph illustrating extensive lumbar striae.

CrossMark

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Figure 2 Lumbar striae.

diagnosis of physiological striae secondary to pubertal growth can be given.

OUTCOME AND FOLLOW-UP

The patient was followed up in the same clinic 18 days later. At this point the child still remained well and asymptomatic. The blood tests that had been requested were all normal and the previously noted striae were unchanged in their appearance. On further follow-up, an appointment was arranged 6 months later. Physical examination revealed that the striae were still present albeit somewhat fainter in appearance.

DISCUSSION

All healthcare professionals, especially paediatricians need to remain mindful of non-accidental injury in any child presenting with bruising. The Child Protection Companion published by the Royal College of Paediatrics and Child Health lists common and important sites for non-accidental bruises. First on this list are buttocks and lower back.⁴ It is therefore important to include non-accidental injury in the differential diagnosis of this case.

Striae distensae during adolescence is relatively common and is a physiological occurrence associated with pubertal growth, most commonly occurring in the gluteal region, breasts, thighs, lower abdomen and back.² A study involving adolescents aged between 10 and 16 years found that striae were present in 35% of 190 healthy adolescents.⁵ The exact aetiology remains unknown but is thought that reduced levels of the genes

encoding collagen and fibronectin are involved in the thinning of connective tissue leading to the atrophic appearance of striae.⁶

Since striae located on the lower back can be particularly mistaken for non-accidental injury, case reports have emerged illustrating cases where this important misdiagnosis has been made. Heller reported two cases in which two adolescent boys were wrongly referred to social services due to lumbar striae being misdiagnosed as evidence of non-accidental injury.² Similarly, Cohen *et al*³ reported four cases in which adolescents with physiological striae overlying the lumbar and lumbosacral region were suspected of suffering non-accidental injuries.³ These cases highlight the need to raise awareness regarding the appearance of physiological striae in adolescents to avoid mismanagement of such cases.

Learning points

- Striae in adolescents are common secondary to pubertal growth with common sites including breasts, upper thighs, back and lower abdomen.
- The appearance of striae particularly over the lower back may raise suspicion of non-accidental injury.
- Increased awareness of the different distributions of striae is crucial in avoiding misdiagnoses as non-accidental injury.

Competing interests None.

Patient consent Obtained.

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