


Raccoon eye and Battle's sign in an infant with multiple Wormian bones

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DESCRIPTION

An 8-month-old girl presented with a right raccoon eye and right Battle's sign (figure 1A,B), which are signs of a basal skull fracture,¹ after a fall from a height of 40 cm the previous day. A head thin-slice CT scan revealed a right parietal bone simple fracture (figure 1C,D) and subcutaneous swelling. There was no cerebrospinal fluid leakage in her ears or nose, and no other signs of a basal skull fracture. The sensitivity of CT scan for diagnosing basal skull fractures is low, and as the specificity of raccoon eye and Battle's sign is extremely high,² the patient was diagnosed with a basal skull fracture. The possibility of abuse was considered, but there were no other fractures, and no intraretinal bleeding on funduscopy. Follow-up MRI showed no leptomeningeal cyst.

Three-dimensional head CT revealed multiple Wormian bones (figure 1D). Wormian bones are considered normal variants, but if >10 Wormian bones are present, the presence of underlying diseases such as osteogenesis imperfecta should be considered.³⁻⁵ Our patient had a low lumbar bone density (0.225 g/cm²).⁶ As she had >10 Wormian bones, we considered the possibility of her having an underlying condition associated with fracturability, but genetic testing did not reveal any mutations characteristic of osteogenesis

Patient's perspective

We are glad that our daughter did not develop any nerve damage. We were worried that she would have another fracture due to minor injuries, but she has not had any fractures in the year since she was diagnosed with a skull fracture.

Learning points

- ▶ Paediatricians should consider a basal skull fracture in cases of raccoon eye and right Battle's sign.
- ▶ Paediatricians should look for signs, including cerebrospinal fluid leakage, in case of raccoon eye and Battle's sign.
- ▶ The presence of multiple Wormian bones may be a sign of an underlying brittle bone disease, such as osteogenesis imperfecta, which can result in repeated bone fractures following minor trauma.

imperfecta. No new fractures occurred during the year of follow-up.

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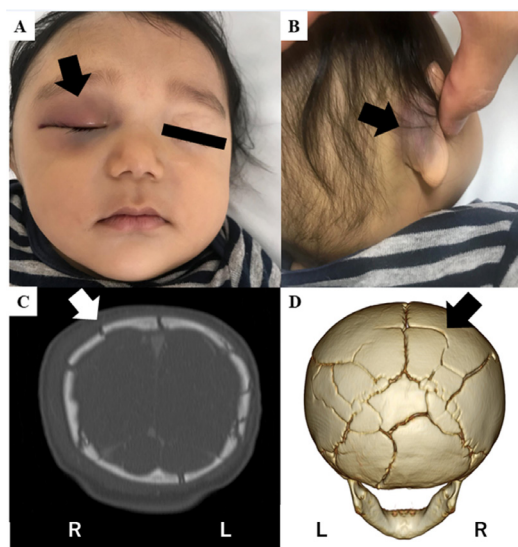


Figure 1 (A) Subcutaneous haemorrhage of the right eyelid indicating raccoon eye (black arrow). (B) Subcutaneous haemorrhage of the right posterior pinna indicating Battle's sign (black arrow). (C) Head CT scan revealed a right parietal bone fracture (black arrow) and subcutaneous haemorrhage (white arrow). (D) Head three-dimensional CT scan revealed a right parietal bone fracture (black arrow) and multiple Wormian bones.



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