

EMERGENCY CASEBOOK

Car seat palsy

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Soft tissue trauma causing peripheral paralysis of the facial nerve is a rarely described event in children. The author describes such a case where a boy developed paralysis of the buccal division of the facial nerve in the absence of any bony injury, through collision with the cushioned side of a child seat during a road traffic accident. He had no other injuries. This reinforces the importance of thorough clinical examination in the detection of subtle neurological abnormalities in young children.

A 3 year old boy and his family, on holiday from abroad, presented to the paediatric emergency department at the Bristol Royal Hospital for Children following a road traffic accident. The boy and his brother had been sitting on approved, front-facing child seats with padded wings for head support. These were situated in the back of the car and both children were wearing seatbelts. The car collided front-on with a stationary vehicle while decelerating from 122 km/h (70 mph). Both front air bags were deployed. None of the other passengers sustained any injuries other than bruises from seatbelt straps, and the boy was playing cheerfully an hour after the event.

Examination revealed a non-tender bruise over the right preauricular area, just below the zygomatic arch, obtained as a result of his cheek hitting the side of the cushioned child seat. Soft tissue swelling was minimal. Examination of his cranial nerves revealed a partial neuropraxia of the buccal division of the right facial nerve. This was differentiated by his inability to move his right cheek or elevate his nasolabial fold when asked to smile/show teeth, puff cheeks out or open his mouth (fig 1).

Posterior auricular, temporal, zygomatic, marginal mandibular, and cervical branches of the facial nerve were intact, as was hearing and taste. No other neurological abnormality was found and there was no evidence of bony injuries to the face or spine. A diagnosis of soft tissue trauma leading to partial nerve palsy was made. He began to show signs of improvement during his stay in the emergency department (resolution began to occur by the time the clinical photos were taken). A full clinical recovery was anticipated, and he was discharged with planned paediatric follow up (in his home country).

DISCUSSION

There are many causes of lower motor neurone facial nerve paralysis in children including infections (for example otitis media, Lyme disease, and viruses such as human immunodeficiency virus, Epstein-Barr and varicella zoster), trauma (for example forceps delivery, non-accidental injury,¹ facial fractures, and surgery (for example after parotidectomy)), and other causes such as lymphoma and hypertension. Bell's palsy (idiopathic facial nerve palsy) is a diagnosis of exclusion. The commonest reported traumatic cause is injury to the temporal bone.²



Figure 1 Partial facial palsy in a 3 year old boy that resulted after his cheek hit the side of the car seat in a road traffic accident. Parental/guardian informed consent was obtained for publication of this figure.

Descriptions of extratemporal facial nerve injuries in children following blunt trauma are rare, but, as in the present case, appear to carry an excellent prognosis,^{2,3} with most resolving spontaneously. The diagnosis should only be established following thorough clinical evaluation, including detailed cranial and peripheral neurological examination. Imaging studies should be requested if a bony injury or intracranial cause is suspected, with early referral to a maxillofacial or ENT specialist. Follow up should be arranged to ensure complete resolution.

It can be easy to overlook peripheral nerve injury in young children (particularly when, as in this case, there are no other obvious injuries to the rest of the child) because there is a tendency to underestimate their ability to comply with clinical examination. This case illustrates that even minor neurapraxias can be detected by careful examination, thus ensuring that more serious injuries requiring further detailed investigation and treatment would not be missed.

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