CASE REPORT

Incidental finding of an orbital foreign body in a child with microcephaly and developmental delay

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SUMMARY

A 3-year-old boy underwent investigations for microcephaly and global developmental delay. An MRI scan identified an ill-defined enhancing lesion in the left superolateral orbit. On subsequent questioning his parents reported that he had been admitted to a neighbouring hospital 2 months earlier with left-sided preseptal cellulitis following a fall onto a plastic toy. Following the episode of cellulitis he developed intermittent mild erythema and oedema of the left upper eyelid for which his parents had not sought further medical attention. The child was admitted for an anterior orbitotomy via a skin-crease approach that identified a large foam plastic foreign body. He made a good recovery from his surgery although he has had intermittent upper eyelid oedema attributed to a persistent granulomatous foreign body reaction. No underlying cause for his microcephaly and delayed development has yet been identified.

BACKGROUND

Cases of orbital foreign bodies are not unusual. However this case highlights that they may present as an incidental finding during investigations for developmental delay and microcephaly. This child's significantly delayed development impacted on his ability to communicate both verbally and non-verbally. This affected his ability to communicate symptoms such as pain or discomfort around his eye and certainly prevented him from providing an account of the original incident. The case illustrates that it is possible to have a foreign body despite no apparent entry wound on presentation and that if there are persistent signs of periorbital cellulitis after antibiotic treatment there should be a low threshold to investigate further to exclude a retained foreign body.

CASE PRESENTATION

A 3-year-old boy was being investigated for significant global developmental delay having presented with delay in reaching developmental milestones from the age of 12 months. He was noted to have microcephaly with his head circumference measurements falling away from the 0.4th centile on his growth chart despite his weight and height following the 25th and 75th centiles, respectively. Baseline investigations including thyroid function tests and karyotyping had been normal so an MRI scan of his head was arranged under general anaesthesia. Owing to the need for a general anaesthetic and the non-urgent nature of the request a waiting time of 3 months was standard for a brain MRI in

these circumstances. There was no contact between the consultant community paediatrician and the child or family during this period.

INVESTIGATIONS

The MRI scan did not identify any structural malformations but there was the incidental finding of an ill-defined enhancing lesion in the superolateral left orbit adjacent to the lacrimal gland and roof of the left orbit (figure 1). The lesion breached the floor of the anterior cranial fossa but there was no dural enhancement.

Subsequent questioning of the child's parents revealed that 2 months earlier, but after the appointment in which the MRI scan was ordered, he had fallen onto a plastic toy while in the nursery. Two days after the fall he had been admitted to a neighbouring hospital with left-sided preseptal cellulitis. A small healing abrasion was noted but no lid lacerations were evident. He was treated with intravenous antibiotics, his symptoms completely resolved and he was discharged from ophthalmological care. The supervising community paediatrician had not been aware of this admission. Since his discharge from hospital his parents had noticed he had a mild degree of intermittent erythema and oedema of his left upper eyelid (figure 2). However it was not significant enough for the parents to seek further medical advice.

DIFFERENTIAL DIAGNOSIS

In a young child with delayed development and microcephaly presenting with intermittent eyelid

Figure 1 MRI showing an enhancing lesion in the superolateral left orbit.

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Figure 2 Photograph showing preoperative appearance of oedema of the left upper eyelid.

erythema and swelling the differential diagnosis should include an allergic response and repeated low-grade trauma such as rubbing or even eye poking to produce visual phenomena, the latter being more common in individuals with learning difficulties. Other possibilities include a foreign body as in this case or a ruptured dermoid cyst.

TREATMENT

In view of his persisting symptoms and the risk of recurrent cellulitis and granuloma formation, surgical excision by an orbital surgeon was arranged. He underwent an anterior orbitotomy via a skin crease approach (figure 3). Exploration of his left orbit revealed a foam plastic foreign body located posterolaterally towards the superior roof of his orbit (figure 4). The foreign body was removed but there was a possibility that tiny fragments remained adherent to adjacent tissue. He was therefore given intraoperative triamcinolone into the area to help minimise the risk of postoperative inflammation.

OUTCOME AND FOLLOW-UP

The child made a full and quick recovery from his surgery. He has experienced further episodes of mild upper lid oedema that are attributed to a low-grade granulomatous inflammatory response which has not required any further treatment. He remains under the care of the community paediatrician and now attends a Special School. He has been reviewed by a clinical geneticist but no underlying cause of his microcephaly and developmental delay has been identified.

Figure 3 Intraoperative photograph showing the position of the foreign body.

Figure 4 Photograph of the foam foreign body after surgical removal.

DISCUSSION

Children with developmental delay and neurological findings such as microcephaly undergo neuroimaging to ascertain if there are any structural malformations to explain their clinical presentation.¹ It has been reported that, compared with children who have normal development, those with delayed development have a higher prevalence of intracranial incidental findings.² These children may have communication difficulties limiting their ability to provide an accurate history or to describe their symptoms. As a result foreign bodies have been missed in children with complex disabilities.³ They are also at higher risk of having foreign body ingestion or injury when compared to children who are developmentally appropriate for their age.⁴

Learning points

- ▶ Investigations in children with developmental delay may identify incidental findings.
- ▶ Foreign bodies, accidental or self-inflicted, must be considered when treating wounds in children with developmental delay affecting their communication or ability to provide an accurate history.
- ▶ If signs of periorbital cellulitis persist after antibiotic treatment there should be a low threshold to investigate further to exclude a retained foreign body.⁵

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