Sir,

Hydrocephalus is among the common pediatric neurosurgical conditions requiring surgical intervention. We present an extremely neglected case of congenital hydrocephalus. A 7-month-old, male child from rural India, a product of a non-consanguineous marriage, born preterm at 34 weeks by Cesarean section (due to antenatal diagnosed hydrocephalus), presented to our Outdoor Department with a history of progressively enlarging head size and developmental delay. At the time of presentation, his head circumference was 93 cm [Figure 1]. Sunset sign was present with dilated subcutaneous veins. Magnetic resonance imaging (MRI) of the head revealed triventriculomegaly with a normal-sized, fourth ventricle, with a thin cortical mantle suggestive of aqueductal stenosis [Figures 2 and 3].

Hydrocephalus is a common pediatric neurosurgical condition and a ventriculoperitoneal shunt is the most common neurosurgical procedure performed. Hydrocephalus is a condition where there is an excessive accumulation of cerebrospinal fluid (CSF) under pressure and at times under no pressure, resulting from impaired circulation and absorption of CSF or under some other circumstances from increased production by a choroid plexus papilloma. Hydrocephalus may be communicating or non-communicating (obstructive), where there is an obstruction of the ventricular system within the confinement of the brain. Common causes of hydrocephalus in infants include: aqueductal stenosis and post meningitic hydrocephalus.

Such a massive head due to neglected hydrocephalus poses a management dilemma. ‘No surgical intervention in patients with a cortical mantle thinner than 1.5 cm,’ is long stressed in literature. We discussed the management plan with the parents of the patient in detail.

Placement of shunt in the massive head was challenging, as positioning the patient was difficult. A vertical skin incision should be avoided as the scalp in these patients is extremely thin and such incisions run the risk of wound dehiscence and hardware exposure. Particular care had to be taken to make a small hole in the dura to avoid pseudomeningocele formation. We used the tip of the monopolar cautery to make a small hole in dura, in which the tip of ventricular catheter could fit snugly. Utmost care had to taken during tunneling, as the entry point of the ventricular end was at a much higher level and at an oblique angle to neck. Although a programmable shunt should ideally be placed, economic constraints did not allow using it. The complications in patients shunted with massive hydrocephalus are, subdural hematoma, ascites or pseudomeningocele, and the delayed...
complications include overriding skull bones, migration of the shunt, and craniosynostosis.\textsuperscript{[1,2]} Ventureyra et al. reported reduction cranioplasty for the problem of overriding bones.\textsuperscript{[1]} Unfortunately, the patient was lost to follow up and the outcome was not known.

Despite advances in medical care, developing world neurosurgeons still face such cases, which pose management challenges and surgical difficulty.

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Sir,

I read with interest the article by El-Zenati et al.\textsuperscript{[1]} Air embolism during skull pin removal is not new and has been reported by us in 2008.\textsuperscript{[2]} The incident in our patient had been documented and confirmed by transesophageal echocardiography (TEE) also. The occurrence of hypotension and bradycardia could have possibly been due to the trigeminocardiac reflex (TCR).\textsuperscript{[3]} Simultaneously, reduction of end-tidal carbon dioxide could be secondary to severe hypotension. The TCR could be a better explanation in this patient as the authors fail to show evidence for the occurrence of air embolism. Air was neither aspirated or visualized using TEE. Moreover, the clinical condition improved after a bolus of 30 mg ephedrine and fluids, suggesting that the fall in end-tidal carbon dioxide could be due to systemic hypotension. The possibility of the TCR cannot be overlooked as the authors have not explained the exact sequence of events in the occurrence of air embolism.

Trigeminocardiac reflex may mimic symptoms of air embolism!