

There is a pressing need to build an ecosystem where AI experts, data scientists and medical practitioners collaborate to ensure optimal utilization of AI in healthcare sector. For this to happen, it is desirable to orient medical student of today to AI to enable him to use the same tomorrow.

**BALJEET MAINI<sup>1</sup>\* AND EKTA MAINI**

*Departments of <sup>1</sup>Pediatrics,  
TMMC&RC, Moradabad, Uttar Pradesh; and  
<sup>2</sup>Dayanand Sagar Group of Institutions,  
Bengaluru, Karnataka;  
India.*

*\*mainibaljeet@gmail.com*

## Cerebral Abscess: A Delayed Complication of Electrical Burns

A 6-year-old boy suffered electrical injury when his head accidentally came in contact with a loose electrical wire of a room cooler. The child lost consciousness transiently and presented with burns on the scalp to a local practitioner. The entry and exit wounds were noticed in the parieto-temporal areas on the right and left sides of the scalp, respectively. Neuroimaging revealed tiny hemorrhagic contusions in the right frontal and parietal areas. Child received oral antibiotics and daily dressing. Two months later, the child presented to us with fever and left-sided focal seizures of one day duration, along with history of episodic irrelevant talking and shouting during the preceding two days. On examination, the child was conscious, with weakness in the left upper limb and left-sided supranuclear facial nerve palsy. The deep tendon reflexes were brisk with bilateral extensor plantar reflexes. The child did not have any signs suggestive of meningeal irritation and there was no papilledema. The laboratory investigations were unremarkable. Magnetic resonance imaging of the brain revealed an ill-defined lesion (38 × 27 × 36 mm) with peripheral blooming in the right frontoparietal lobe with significant perilesional edema, associated with peripheral enhancement of the lesion with associated patchy leptomeningeal enhancement. Focal calvarial thinning was seen in the left posterior high parietal region. A possibility of right cerebral abscess with associated cerebritis and meningitis was kept. The child was treated with intravenous ceftriaxone, vancomycin and metronidazole along with intravenous phenytoin and mannitol.

## REFERENCES

1. Ngiam KY, Khor IW. Big data and machine learning algorithms for health-care delivery. *Lancet Oncol.* 2019;20:e262-e273.
2. Karapinar Senturk Z. Early diagnosis of Parkinson's disease using machine learning algorithms. *Medical Hypotheses.* 2020;138: 109603.
3. Van der Heijden A, Abramoff M, Verbraak F, et al. Validation of automated screening for referable diabetic retinopathy with the IDx-DR device in the Hoorn Diabetes Care System. *Acta Ophthalmologica.* 2017;96:63-8.
4. Rampton V, Mittelman M, Goldhahn J. Implications of artificial intelligence for medical education. *Lancet Digital Health.* 2020; 2:e111-e12.

The child had repeated uncontrolled seizures and died within 24 hours, before neurosurgical intervention could be done.

The presentation of electrical injuries in children can be unique as these may involve uncommon sites and the severity may be greater as the percentage of fat may be lesser as also the different surface area to volume ratios compared to adults [2]. Low voltage circuits seen in domestic settings are usually less damaging; however, alternating current is more injurious than direct current. Blood vessels and brain tissue, due to the high fat content, are more vulnerable to thermal effects of current [3]. Previously, electric burn of skull in association with cerebral contusion and intracranial infection was reported in a patient who had a successful outcome following timely surgical intervention [4]. Unfortunately, neurosurgical intervention could not be undertaken in this child due to delayed presentation in the hospital.

**POOJA DEWAN,\* SWATI BHAYANA AND VIMAL NAG**

*Department of Pediatrics  
University College of Medical Sciences  
and GTB Hospital, Delhi, India.  
\*poojadewan@hotmail.com*

## REFERENCES

1. Fish RM, Geddes LA. Conduction of electrical current to and through the human body: A review. *Eplasty.* 2009;9:e44.
2. Lee RC. Electrical Trauma: The pathophysiology, manifestations and clinical management. In Lee RC, Cravalho EG, Burke JF (eds) *Cambridge, Cambridge University Press; 1992. The Pathophysiology and Clinical Management of Electrical Injury.* p.3379.
3. Gabriel S, Lau RW, Gabriel C. The dielectric properties of biological tissues: II. Measurements in the frequency range 10 Hz to 20 GHz. *Phys Med Biol.* 1996;41:2251-69.
4. Chen X, Qin FJ, Chen Z, Zhang GA. [Treatment of full-thickness electric burn of skull combined with cerebral contusion and intracranial infection]. *Zhonghua Shao Shang Za Zhi.* 2012;28:116-8.