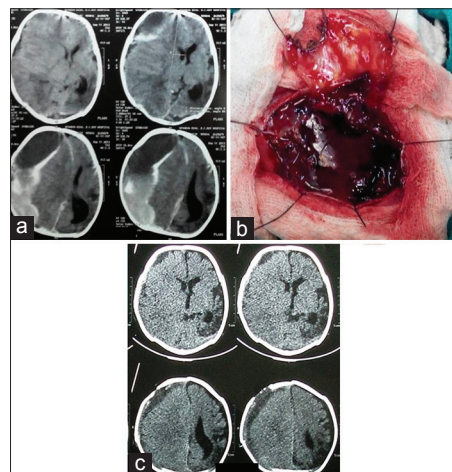


## Anesthetic Management of an Infant with Massive Spontaneous Subdural Hematoma

Sir,

Pediatric patients presenting for neurosurgery pose inherent challenges to the anesthesiologist because of their unique physiological status and more so in the presence of a coagulation disorder. A 3-month old infant was referred to our center with complaints of inconsolable cries and irritability, computed tomography (CT) of the head revealed a large bilateral acute on chronic subdural hematoma (SDH) and left temporoparietal infarct with midline shift [Figure 1a]. The infant was planned for urgent evacuation of SDH and on preoperative evaluation, his weight was 6.8 kg, hemoglobin (Hb) was 8 g%, platelet count 5.3 lakhs/mm<sup>3</sup>, prothrombin time 47 s with control 12 s, international normalized ratio (INR) 3.9, and activated partial thromboplastin time (aPTT) 48 s with control 35 s. Liver and renal function tests were within normal limits. The infant was transfused with 100 mL fresh frozen plasma (FFP) over the next 4 h and was given vitamin K 5 mg intravenously. Repeat coagulation profile after 6 h was deranged, and 100 mL FFP was repeated over the next 2 h. After this, the coagulation profile normalized and he was taken up for emergency right frontotemporoparietal craniotomy and evacuation of hematoma [Figure 1b]. Before induction of anesthesia, 100 mg of tranexamic acid was given intravenously. General anesthesia was induced by oxygen, nitrous oxide, and sevoflurane with face mask and airway secured with 3.0 mm internal diameter (ID) cuffed endotracheal tube. The infant was hyperventilated to end-tidal carbon dioxide of 25 mmHg to reduce intracranial pressure. Analgesia was provided with fentanyl 10 µg and paracetamol 100 mg intravenously. 100 mL packed red blood cells were transfused intraoperatively as estimated blood loss was around 100 mL. The infant was extubated postoperatively after normothermia and the full recovery of airway reflexes was achieved. The child had an excellent postoperative recovery except for focal seizures due to left temporoparietal lobe infarct [Figure 1c].

The child was reviewed by a hematologist postoperatively and all investigations including prothrombin time (PT), INR, aPTT, plasma fibrinogen assay, and platelet count were found within normal limits. Vitamin K deficiency bleeding (VKDB) was opined as a likely cause for the spontaneous subdural hematoma. VKDB, which is due to inadequate activity of



**Figure 1:** (a) Preoperative CT scan, (b) intraoperative large SDH, and (c) postoperative CT scan

vitamin K-dependent coagulation factors, presents in the 1<sup>st</sup> week of life but late VKDB peaks at 3-8 weeks, typically presenting with intracranial hemorrhage.<sup>[1]</sup>

The challenges of anesthetic management in infants with coagulation disorders are preservation of intravenous access after multiple transfusions and correction of the coagulation profile. Antifibrinolytic agent tranexamic acid in a dose of 10 mg/kg bolus followed by 1 mg/kg/h infusion is beneficial in decreasing bleeding in patients with coagulation disorders undergoing surgery.<sup>[2]</sup>

The mass effect of hemorrhage in infants is often masked till a late stage by a compensatory increase in the intracranial volume through the open fontanels and sutures. The anesthetic goal is mainly to prevent secondary brain injury due to hypoxia, hypotension, hyperthermia, hyperglycemia, or hypoglycemia.<sup>[3]</sup> Increase in intracranial pressure at induction and volatile anesthetic-induced increases in cerebral blood flow are to be avoided. Anesthesia is maintained either with volatile agents at lower minimum alveolar concentration or with total intravenous anesthesia and opioids such as fentanyl for a successful outcome.

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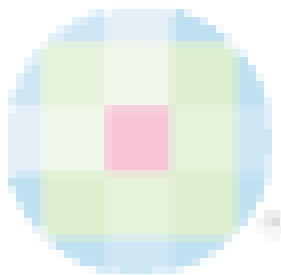
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Announcement

## Conference Calender - 2015

**Name of the conference: 63<sup>rd</sup> Annual National Conference of the Indian Society of Anaesthesiologists, ISACON 2015**

**Date:** 25<sup>th</sup> to 29<sup>th</sup> December 2015

**Venue:** B. M. Birla Auditorium & Convention Centre, Jaipur, India

**Organising Secretary:** Dr. Suresh Bhargava

**Contact:** +91 98290 63830

E-mail: [suresh3559@yahoo.com](mailto:suresh3559@yahoo.com)

Website: [www.isacon2015jaipur.com](http://www.isacon2015jaipur.com)

**Name of the conference: KISACON 2015, 31<sup>st</sup> Annual Conference of Indian Society of Anaesthesiologists, Karnataka State Chapter**

**Date:** 9<sup>th</sup> to 11<sup>th</sup> October 2015

**Venue:** S N Medical College, Bagalkot

**Organising Secretary:** Dr. Ramesh Koppal

**Contact:** +91 98455 04515

E-mail: [rameshkoppaldr@gmail.com](mailto:rameshkoppaldr@gmail.com)

Website: [www.kisacon2015.com](http://www.kisacon2015.com)

**Name of the conference: 6<sup>th</sup> National Airway Conference 2015 (NAC 2015)**

**Date:** 18<sup>th</sup> to 20<sup>th</sup> September 2015

**Venue:** Workshop: Srinagar, Conference: Gulmarg (J&K)

**Organising Secretary:** Dr. Zulfiqar Ali

**Contact:** +91 94190 86761

E-mail: [nacsrinagar2015@gmail.com](mailto:nacsrinagar2015@gmail.com)

Website: [http://aidiaa.org/NAC2015/NAC\\_home.html](http://aidiaa.org/NAC2015/NAC_home.html)

**Name of the conference: 48<sup>th</sup> Gujarat State Conference of Indian Society of Anaesthesiologists 6<sup>th</sup> National Airway Conference 2015 (GISACON 2015)**

**Date:** 9<sup>th</sup> to 11<sup>th</sup> October 2015

**Venue:** Shanku's Water World Resort (Ahmedabad-Mehsana Highway)

**Organising Chairman:** Dr. R G Agrawal

**Organising Secretary:** Dr. H G Bhavsar

**Contact:** +91 98242 33694

E-mail: [info@gisacon2015.com](mailto:info@gisacon2015.com)

Website: [www.gisacon2015.com](http://www.gisacon2015.com)

**Name of the conference: 7<sup>th</sup> Annual Conference of ICA**

**Date:** 13<sup>th</sup> to 15<sup>th</sup> November 2015

**Venue:** Hotel Savera, Chennai

**Organising Secretary:** Dr. K. Balakrishnan

**Contact:** +91 98410 29259

**Name of the conference: 16<sup>th</sup> North Zone ISACON 2015**

**Date:** 16<sup>th</sup> to 18<sup>th</sup> October 2015

**Venue:** Dr. Rajendra Prasad Govt. Medical College, Kangra, TANDA (HP)

**Organising Chairman:** Dr. Sudarshan Kumar