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Successful anesthesia management in a pediatric patient with advanced hydrocephalus

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Introduction: Hydrocephalus is a neurological disorder produced by the impairment of balance between the formation of cerebrospinal fluid, its flow and absorption. In this report, successful anesthesia management in a pediatric case of hydrocephalus with a head circumference of 60 cm is presented.

Case: A mentally retarded patient at the age of 4.5 and weight 15kg who had severe hydrocephalus was planned to undergo operation by pediatric surgery clinic for vesico urethral reflux operation. In physical examination, severe mental and motor retardation was observed. No pathology was found in routine biochemical and hematological investigations. Patient was monitored with ECG, heart rate and pulse oximeter. After about 5 minutes of preoxygenation, 50/50% air/oxygen, anesthesia induction was made with sevoflurane. Considering that difficulty may be encountered in the preparation of airway, face masks, at different sizes, airways and laryngeal masks were prepared. For laryngoscopy, blades and endotracheal tubes at different sizes were kept ready and premedication was not administered. No problem was encountered in the ventilation of the patients with face mask. Mask ventilation was observed to be comfortable and following sufficient muscular relaxation with sevoflurane and propofol anesthesia, intubation was attempted with number 5 tube without cuff without using neuromuscular blockers and at the accompaniment of stylet. First attempt was not successful and no 2,4 laryngeal mask was placed. Anesthesia maintenance was made with sevoflurane in 50/50% air/oxygen. In addition to routine monitoring, end-tidal CO₂ monitoring was carried out with anesthetic gases. Following the operation lasting for approximately 20 minutes, patient was extubated without any problems and after being followed for one hour in recovery room, was sent to clinic.

Discussion: Hydrocephalus is a condition caused by ventricular enlargement as a consequence of the increase of cerebrospinal fluid in ventricles. Various studies suggest that necessary preparations should be carried out in advance for the determination of conditions that may lead to difficulty in intubation for the safe conduct of endotracheal intubation in infant and child age group. In conditions with head and neck anomaly, it is suggested that difficult intubation algorithm should be complied with and awake intubation should be tried if necessary.

Conclusion: In patients with hydrocephalia, one must be prepared for difficult intubation and the fact that monitoring and support may be required in post operative period should be borne in mind.

Biography

Ozkan Onal has completed his medical education at Gazi University Medical Faculty and he was specialized in anesthesiology in Hacettepe University Medical Faculty. He has more than 15 publications in reputed journals in the field of anesthesia.

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