Laryngeal Mask Airway Anaesthesia in Hypotonic Cases with Expected Difficult Intubation

Onur Palabıyık
Clinic of Anaesthesiology and Reanimation, Sakarya University Training and Research Hospital, Sakarya, Turkey

Dear Editor,

I recently read the case report titled “Anaesthetic Management in Costello Syndrome” published by Akçıl et al. (1) with great interest. In this study, the authors elaborately examined the general anaesthesia technique they had applied for the insertion of a ventriculoperitoneal (VP) shunt to an 18-month-old hydrocephaly patient who was diagnosed with Costello syndrome (CS) and the findings of macrocephaly, short neck, depressed bridge of the nose and macroglossia and having risks of difficult ventilation and difficult intubation. I want to contribute by reminding that anaesthesia via a laryngeal mask (LMA) should be kept in mind as an alternative to endotracheal intubation in the administration of general anaesthesia.

Although there are no comprehensive studies investigating the rates of difficult ventilation and difficult intubation in paediatric patients, the rate of difficult intubation was found to be 0.42% and the rate of difficult ventilation was found to be 0.02% in an evaluation of the files of 9000 paediatric patients in a paediatric hospital in a study (2). Anaesthesia must be planned carefully in patients predicted to have difficult ventilation and difficult intubation. All equipment for difficult ventilation and difficult intubation, including balloon masks in different sizes, airways, laryngoscope blades, intubation tubes, stylets, LMAs and fibreoptic bronchoscopy, must be kept ready. The most appropriate anaesthesia technique must be selected considering patient and surgery type. If something goes wrong, suitable alternative methods must be evaluated as fast as possible.

The authors have reported that intubation was performed in multiple interventions in CS cases in the literature and that intubation was done at the fifth trial in their case. In the guidelines, it is stated that the number of intubation efforts must not exceed four in total if they are performed by specialists or assistant doctors on paediatric patients who are predicted to have difficult intubation (3). In a patient expected to have difficult intubation or difficult ventilation, the plan of LMA anaesthesia, which should already be available, must be considered. LMA anaesthesia is a sufficient and safe technique for the insertion of a VP shunt (4, 5).

The authors also mentioned that hypotonia can be seen in CS patients. In patients with the prognosis of hypotonia, neuromuscular monitoring must be done if possible because the neuromuscular blockade can be prolonged. If neuromuscular monitoring cannot be implemented, the use of a neuromuscular blocker must be avoided as far as possible. In hypotonic patients, LMA anaesthesia can be applied without using a neuromuscular blocker for a VP shunt and by allowing spontaneous respiration (6).

In difficult intubation or difficult ventilation patients, sedation can be applied with an agent that cannot cause respiratory depression for decreasing anxiety and fear (3). Midazolam, which has been reported to be used in patients with cardiac problems or hypotonic patients safely, is a proper premedication agent (6, 7).

In conclusion, when the type of surgical procedure is suitable, LMA anaesthesia should be kept in mind as an alternative anaesthesia technique in patients diagnosed with CS and predicted to have difficult ventilation and difficult intubation.
Dear Editor,

We thank the author for their comments on our case report titled “Anaesthetic Management in Costello Syndrome,” which was published in your journal. The author specified that all equipment for difficult ventilation and difficult intubation, including balloon masks in different sizes, airways, laryngoscope blades, intubation tubes, stylets, LMAs and fiberoptic bronchoscopy, must be kept ready in the preparation of anaesthesia in patients predicted to have difficult ventilation and difficult intubation. In our study, we already specified that we kept these devices ready for possible difficult ventilation and/or difficult intubation (1). Moreover, the author underlined the use of LMA in difficult airway management. Although it is stated that the use of LMA is safe in operations requiring positions of the head other than a neutral position (2), it was demonstrated in a study comparing classical LMA and flexible LMA (FLMA) in different head and neck positions that the anatomic positions of both LMAs did not change but that head–neck flexion and rotation caused an increase in oropharyngeal leakage pressure and intra-cuff pressure and that extension caused a decrease in oropharyngeal leakage pressure (3). In a study in which ProSeal LMA and I-gel were compared in different positions of the head and neck, it was detected that the epiglottis closed the entry of LMA much more in this position than in a neutral position (5). In addition, according to our clinical experience, the flexion, extension and rotation positions of the head and neck in children in surgeries performed for the insertion of a VP shunt cause the replacement of the LMA cuff, the formation of leakage and ventilation problems. Moreover, considering the respiratory and cardiac risks of the patient, we aimed to reduce the risk of encountering problems related to ventilation to the minimum level.

The author has stated that in patients in whom neuromuscular monitoring cannot be applied, the use of a neuromuscular blocker must be avoided as far as possible and that LMA anaesthesia can be applied without using a neuromuscular blocker for a VP shunt and by allowing spontaneous respiration in hypotonic patients. However, we think that the case that was suggested by the author in the literature related to a patient who could have an operation for lacrimal duct obstruction and could tolerate the sympathetic response and intracranial pressure increase, which would be caused by laryngoscopy and intubation, much more than that in a patient with hydrocephaly and hypertrophic cardiomyopathy (6). Best regards,

Eren Fatma Akçıl, Özlem Korkmaz Dilmen, Yusuf Tunali
Department of Anaesthesiology and Reanimation, Istanbul University Cerrahpaşa School of Medicine, Istanbul, Turkey

References