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LETTER TO THE EDITOR

Anesthetic management in a newborn with a giant occipital encephalocele: a case report

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To the Editor:

Cephalocele is a congenital abnormality that occurs when the ectoderm fails to transform into the neuroectoderm during the early embryonic stages of life. This anomaly results in bone structure defects. If hernia develops only in the meninges, a meningocele occurs; if hernia develops both in the meninges and in the neural tissues, an encephalocele occurs [1]. In some patients, the encephalocele can be accompanied by other anomalies. These patients are often operated on during the neonatal period to prevent bacterial contamination and sepsis and to avoid neurological complications [2]. Airway complications and the accompanying anomalies might present a problem for anesthesiologists. In this report, we discuss the case of a patient who underwent surgery for an encephalocele, a 3,300-g baby girl who was delivered via a cesarean section at 39 weeks of gestation by a 26-year-old mother. The baby underwent surgery on the fourth day after birth. Apart from the encephalocele (10 × 5 cm), her physical examination was unremarkable (Fig. 1). Induction of anesthesia with inhalational agents has the side effect of causing cardiac depression; however, it has the advantage of allowing intubation while maintaining spontaneous breathing. In this case, we chose to induce inhalation anesthesia with 6 % sevoflurane in oxygen, which was performed after preoxygenation. During spontaneous respiration, the patient's thyroid cartilage was gently pressed by an assistant in the lateral decubitus position. The patient was intubated with a 3.0-mm endotracheal tube at the first attempt. For better fixation, a flexible spiral tube was used. After the intubation, a muscle relaxant (cisatracurium) was provided, and preoperative pain was managed by fentanyl administration. Anesthesia was maintained with 2–3 % sevoflurane in 50 % oxygen/air. The patient was positioned prone, with a silicone pad placed under the forehead. The operation lasted for 3 h 45 min. During the surgery, peripheral oxygen saturation, electrocardiography, noninvasive blood pressure measurement, and body heat monitoring were performed, and 30 ml blood was transfused. Body temperature was maintained by wrapping the infant in warm blankets and administering heated intravenous fluids. With the establishment of spontaneous respiration with open eyes and crying, with resistance to the tube, the patient was extubated and then transferred to the inpatient clinic. In inducing anesthesia in patients undergoing surgery for encephalocele, surgeons should be aware of possible airway complications, blood loss, and wrong positioning of the patient. Further, the body temperature of the patient should be monitored [3]. Intubation can be applied in either the supine or the lateral decubitus position [4]. In this study, the patient was successfully intubated in the lateral decubitus position. In patients with encephaloceles, the pontomedullary respiratory center might have structural defects in the afferent and efferent pathways, which can cause inadequate spontaneous respiration. It can also result in poor sucking reflex, absence of the gag reflex, a lack of pharyngeal coordination, and aspiration [2]. During

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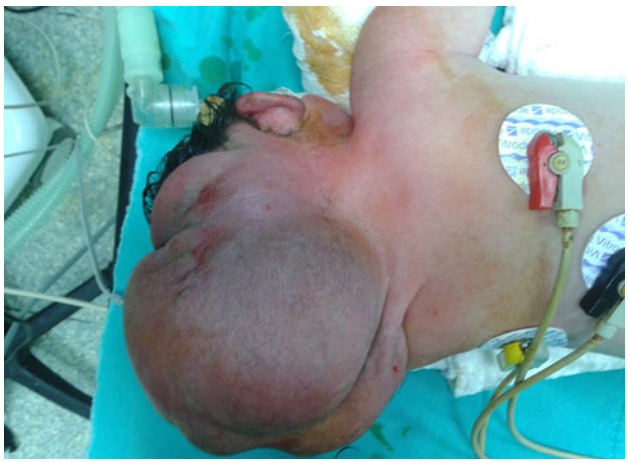

Fig. 1 Newborn with occipital encephalocele

surgical planning for a patient with an encephalocele, complications associated with the application of anesthesia and the risk of difficult intubation should be considered, and sufficient preoperative preparations should be made.

Conflict of interest None.

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