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CLINICAL INFORMATION

Perioperative management of a morbidly obese pregnant patient undergoing cesarean section under general anesthesia – case report☆

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Morbid obesity;
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Abstract
Background and objectives: The increased prevalence of obesity in the general population extends to women of reproductive age. The aim of this study is to report the perioperative management of a morbidly obese pregnant woman, body mass index >50 kg/m^2, who underwent cesarean section under general anesthesia.
Case report: Pregnant woman in labor, 35 years of age, body mass index 59.8 kg/m^2. Cesarean section was indicated due to the presumed fetal macrosomia. The patient refused spinal anesthesia. She was placed in the ramp position with cushions from back to head to facilitate tracheal intubation. Another cushion was placed on top of the right gluteus to create an angle of approximately 15° to the operating table. Immediately before induction of anesthesia, asepsis was carried out and sterile surgical fields were placed. Anesthesia was induced in rapid sequence, with Sellick maneuver and administration of remifentanil, propofol, and succinilcolina. Intubation was performed using a gum elastic bougie, and anesthesia was maintained with sevoflurane and remifentanil. The interval between skin incision and fetal extraction was 21 min, with the use of a Simpson's forceps scoop to assist in the extraction. The patient gave birth to a newborn weighing 4850 g, with Apgar scores of 2 in the 1st minute (received positive pressure ventilation by mask for about 2 min) and 8 in the 5th minute. The patient was extubated uneventfully. Multimodal analgesia and prophylaxis of nausea and vomiting was performed. Mother and newborn were discharged on the 4th postoperative day.

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PALAVRAS-CHAVE
Obesidade mórbida;
Parto cesariano;
Anestesia geral: remifentanil

Controle perioperatório de gestante obesa mórbida submetida a parto cesariano sob anestesia geral – relato de caso

Resumo
Justificativa e objetivos: O aumento na prevalência da obesidade na população geral se estende para mulheres na idade reprodutiva. O objetivo deste estudo é relatar o controle perioperatório de uma gestante obesa mórbida com índice de massa corporal >50 Kg/m^2, submetida a parto cesariano sob anestesia geral.
Relato do caso: Gestante de 35 anos com índice de massa corporal de 59,8 Kg/m^2. Estava em trabalho de parto. Foi indicado parto cesariano devido a macrossomia fetal presumida. A paciente recusou raquianestesia. Ela foi posicionada em rampa com coxins no dorso até a cabeça para facilitar a intubação traqueal. Outro coxim foi colocado na parte superior do glúteo direito para criar uma angulação próxima de 15° com a mesa cirúrgica. Imediatamente antes da indução anestésica, procedeu-se a assepsia e colocação de campos cirúrgicos estéreis. Foi feita indução em sequência rápida com manobra de Sellick, com remifentanil, propofol e succinilcolina. A intubação foi feita com auxílio de gum elastic bougie. A anestesia foi mantida com remifentanil e sevoflurano. O intervalo entre a incisão na pele e a extração fetal foi de 21 minutos e foi usada uma das colheres do fórceps de Simpson para auxílio na extração. Paciente concebeu recém-nascido com peso de 4.850 g, apresentou índice de Apgar de 2 no primeiro minuto (recebeu ventilação com pressão positiva sob máscara por aproximadamente dois minutos) e 8 no quinto minuto. A paciente foi extubada, sem intercorrências. Foi feita analgesia multimodal e profilaxia de náuseas e vômitos. Mãe e récem-nascido receberam alta no quarto dia de pós-operatório.

Introduction

The prevalence of obesity is on the rise in countries with low and middle income, especially in urban areas.[1] This increase in the prevalence of obesity in the general population extends to women of reproductive age. Obesity is associated with several unwanted clinical outcomes during pregnancy, including preeclampsia, gestational diabetes mellitus, venous thromboembolism, post-term pregnancy, fetal macrosomia, and stillbirth.[2] Cesarean delivery rate is higher in obese pregnant women, especially in morbidly obese ones.[2–4] Obese pregnant women are at increased risk for labor induction, dysfunctional labor, shoulder dystocia, higher rate of surgical site infection, urinary tract infection, endometritis, and postpartum hemorrhage.[5] Maternal obesity is associated with increased difficulty in performing neuraxial anesthesia,[6] higher incidence of arterial hypotension,[7] and intubation failure during general anesthesia.[8] Newborns of obese patients are at increased risk for perinatal complications (low blood pH, lower base excess, hypoglycemia, and lower Apgar index).[9,10] Pregnant women with body mass index (BMI) $\geq$50 kg m^{-2}, also called super-obese,[2,11] have significantly higher risk for complications during pregnancy compared with others less obese.[11] The perioperative anesthetic and surgical management of obese patients with BMI > 50 kg m^{-2} undergoing cesarean delivery can be quite a challenge. The objective of this paper is to report the perioperative management of a pregnant woman with BMI > 50 kg m^{-2}, undergoing cesarean section under general anesthesia.

Case report

Pregnant woman, 35 years old, 169 kg and 168 cm (BMI = 59.8 kg m^{-2}) (Fig. 1), gravida 4, para 2, abortion 1 with 41 weeks and six days of gestation. With hypertension for 14 years, the patient was taking alpha methyldopa 1.5 g day^{-1}; with uterine miomatosis, she had several episodes of metrorrhagia before the pregnancy. She underwent curettage for missed abortion four years ago, without anesthetic and surgical complications. The patient was admitted to the obstetric unit in labor with amniotic sac rupture, and was fasting for eight hours. Cesarean section was indicated due to suspected fetal macrosomia (estimated fetal weight of 4600 g in ultrasound) and the expected difficulty of fetal monitoring. Laboratory tests showed hemoglobin 9.8 g dL^{-1}, hematocrit 31.3%, WBC 7900 mm^3, platelets 190,000 mm^3, urea 26 mg dL^{-1}, and creatinine 0.6 mg dL^{-1}. The patient complained of discomfort when placed in the supine position. She was lucid, collaborative, with dry mucous membranes and pallor skin. Airway examination revealed Mallampati grade II, mouth opening larger than 3 cm, and thyromental distance greater than 6 cm. Neck flexion and extension were limited. Apron abdomen, gravid, with hyperemia in the lower region, diffusely tender to palpation. The patient refused spinal anesthesia despite arguments to the contrary. In the operating room, the patient was monitored with 5-lead ECG, pulse oximetry (oxygen saturation), noninvasive blood pressure and, after intubation, capnography and gas analyzer (O_2 and CO_2 and inhalational anesthetics). Arterial blood pressure, oxygen saturation,