Anesthesia Management for elective Caesarean Section (C-section) in a Parturient with Placenta Accreta following previous C-section

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Introduction:
The incidence of placenta accreta among deliveries is low (0.04%), while it is one of the two major causes of peripartum hemorrhage and the most common indication for peripartum hysterectomy [1]. The incidence of placenta accreta has increased and seems to parallel the increasing cesarean delivery rate[2, 3]. Placenta accreta is a potentially life-threatening obstetric condition that requires a multidisciplinary approach to management. We present the anesthesia management of a parturient with placenta accreta following the previous two C-sections.

Case Description:
A 42 year-old female (170cm, 126Kg, BMI 43.4), G6P2032, ASA III, morbid obesity, was admitted for an elective C-section at the gestational age of 37wks1day. Ultrasound at 8wks revealed C-section scar which was suspected for placenta accreta. Past surgical history was significant for two prior cesarean deliveries and three prior dilation and curettage. A multidisciplinary team had been put in place prior to the procedure including urologist for bilateral ureteral stents and considered cystotomy repair, gynecology oncologist for possible hysterectomy, and maternal fetal medicine specialist for cesarean delivery.

Anesthesia Management:
After discussing the anesthesia risk, morbidity and mortality of her condition with the obstetrician team and the parturient, we decided to have epidural anesthesia for C-section and convert to general anesthesia if placenta accreta was confirmed and hysterectomy was necessary. Peripheral and central accesses were set up, including two 14G peripheral intravenous catheters and right intra jugular triple lumen catheter. A line was placed for closed monitoring of BP, HR and blood gas. A complete blood cell count and a type and crossmatch for 4 U of blood were available in the OR.

Standard ASA monitoring was monitored. The patient received epidural anesthesia without any complications. An adequate anesthesia level was achieved after four time epidural boluses of 5 ml (2% lidocaine, with epinephrine 5mcg/ml and fentanyl 5mcg/ml). An ultrasound of the uterus was made in order to determine the uterine incision. The uterine incision was made below the placenta in the lower uterine segment for a low transverse incision. The infant was delivered by C-section without difficulty. Placenta was found to be adhered in the anterior fundal part and a decision was made to close the uterine incision and proceed with the hysterectomy. General anesthesia was initiated for the expectation of more blood loss than the blood loss so far (1200ml). Patient received
Lidocaine 100mg, Propofol 300mg, Rocuronium 10mg, Succinylcholine 100mg. She was intubated without complication. During the maintenance, she received Desflurane 2.6% and Nitrous oxide 70% and oxygen 30%. Massive transfusion protocol was followed. Hysterectomy was performed successfully. Patient was hemodynamically stable. She received totally 10L crystalloid, 11 units of RBC, 4 units of FFP, 2 units of platelet and 1.5L 5% albumin. Blood loss was about 5000 ml and urine output was 450ml.

The patient was transported to the surgical ICU, was stable and was extubated the next morning. The rest of the post C-section case was uneventful. Following surgery patient received epidural analgesia for post C-section pain with ropivacaine 0.025% and fentanyl 3mcg/ml, at 15ml/hr, 4ml PCA dose and lockout time 10 minutes for 48hrs. She was discharged four days later.

Discussion:
Anesthetic management of pregnant women with placenta accreta can be challenging. An elective cesarean is recommended for management of placenta accreta [4]. In this case, placenta accreta was suspected preoperatively, we had a comprehensive pre-operative preparations to ensure the good outcome, which included immediate availability of blood products for treatment of maternal hemorrhage and a multidisciplinary team consisting of a maternal fetal medicine specialist, obstetrician, anesthesiologists, intensivist, and neonatologist.

We used the epidural anesthesia followed by general anesthesia for the intraoperative anesthetic management. We chose epidural anesthesia for C-section, Which has been shown to decrease blood loss, and improve fetal outcomes [5]. Our patient could see and hold her baby before having hysterectomy. We switched to general anesthesia when the decision of hysterectomy was made, considering that the resuscitation may be necessary [5]. The epidural catheter was kept for post C-section analgesia. We demonstrated that the care of a parturient with placenta accreta can be achieved safely with the comprehensive preparation and the thorough communication among the multidisciplinary team.

References