INTRODUCTION

The incidence of placenta accreta spectrum (PAS) disorders, characterized by abnormal invasion of trophoblastic tissue through the myometrium and uterine serosa, has been growing considerably [1], thus exposing mothers to the risk of massive bleeding and death [2].


OUR PROTOCOL

The present article is meant to share the internal protocol developed in our center, Villa Sofia-Cervello Hospital, Palermo, Italy, focusing on the anesthesiologic management (Figure 1).

From the diagnosis to the surgery

An early diagnosis allows to involve a multidisciplinary team, tailor the management plan, and prepare the elective caesarean section and subsequent hysterectomy, also performing ultrasonography, magnetic resonance imaging, and preoperative anesthetic examination. Finally, the transfusion service and the Intensive Care Unit (ICU) should be alerted.

Anesthesiology management

Historically, general anesthesia, is preferred to reduce the mother’s anxious state, allow the anesthetist to focus on the hemorrhage and the cardiovascular stability, and avoid the risk for hemodynamic instability due to an urgent shift from locoregional to general anesthesia.

Our protocol, although indicating general anesthesia in emergency regimens, provides the use of epidural anesthesia both during birth and hysterectomy, considering the shift to general anesthesia in case of emergency. In our opinion, epidural analgesia offers several advantages:

- reduced risk of Mendelson syndrome;
- better post-surgery pain control;
- no risk of awareness;
- the fetus is not exposed to the effect of general anesthetics;
- participation of the mother to the birth;
- continuous monitoring of the consciousness status, which indicates the level of brain perfusion and, thus, of the hemodynamic status;
- abolition of the side effects of general anesthetics (e.g., reduction of the uterine tone and platelet functionality).
Interventional radiologists help reducing the vascular inflow to the operating field, thus allowing to use locoregional anesthesia in obstetrics with reduced bleeding, reduced use of blood products in the major obstetric hemorrhage, and better management in the post-surgery pain therapy. Finally, we chose epidural anesthesia over combined combined spino-epidural technique because the epidural catheter is placed in the obstetrics operatory room, and 60 minutes (radiological time) elapse before the skin incision in the interventional radiology room. Therefore, the maximum effect of the spinal anesthesia would begin to decrease. In our experience, the epidural anesthesia has a reduced hemodynamic effect compared with spino-epidural technique.

**Obstetrics operatory room**

The patient is prepared in the obstetrics operatory room. Two large peripheral veins are cannulated. Then, the antibiotic prophylaxis and saline are administered. The skin is disinfected, a cutaneous wheal with lidocaine is performed, and the epidural space is identified. The epidural catheter is placed, while monitoring electrocardiogram (ECG), oxygen saturation, and non-invasive blood pressure. The aspiration test and dose test are performed with lidocaine. Finally, the patient is moved to the interventional radiology room.

**Interventional radiology room**

**Time 1**

Colloids are infused and vital parameters are monitored. Subsequently, ropivacaine and fentanyl are administered. The cannulation of the radial artery is performed and a central venous catheter is placed. A wedge is placed under the right buttock of the patient. In the meanwhile, invasive blood pressure, oxygen saturation, electrocardiogram,
Post-surgery monitoring

After surgery, patients remain under observation in the Recovery Room in the Obstetrics and Gynecology Unit. After 4 hours, if the vital parameters are within normal range, Aldrete score is 9-10, and numerical rating scale—NRS is 2, the patient is moved to the ward, where the blood and continuous pressure monitoring continue.

Conclusions

The efficiency of this protocol made us become a reference center for the management of placenta accreta beyond the borders of our region. We treated more than 20 patients and we obtained positive results in terms of bleeding, packed red blood cells used, postoperative sequelae, and ICU admissions. No patients died.

A few procedures were carried out in emergency regimen and in these cases general anesthesia was used: they required the greatest amount of blood products, as also confirmed by the literature [5]. In our experience, both in case of elective and emergency surgeries, fibrinogen administration considerably reduced the need for packed red blood cells. Among those treated in elective regimen, blood loss never exceeded 1800 mL.
REFERENCES


