Scientific Research Publishing

Open Journal of Obstetrics and Gynecology, 2023, 13, 1068-1074
https://www.scirp.org/journal/ojog
ISSN Online: 2160-8806
ISSN Print: 2160-8792

Vaginal Caesarean Section: A Review of Indications in Mali

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How to cite this paper: Kane, F., Diallo, S., Boire, S., Sidibe, A., Zino, J.M., Bah, B., Camara, S., Ibringo, L., Diarra, M.A., Dembele, B.L., Diassana, M. and Traore, T. (2023) Vaginal Caesarean Section: A Review of Indications in Mali. *Open Journal of Obstetrics and Gynecology*, **13**, 1068-1074.
https://doi.org/10.4236/ojog.2023.136091

Received: May 4, 2023
Accepted: June 25, 2023
Published: June 28, 2023

Abstract

Introduction: The vaginal caesarean described since the 19th century remains unknown to many practitioners. The publications available on the subject are rare. The objective of this review is to report the experience of our team in Mali on vaginal cesarean section. **Materials and Methods:** This is a documentary review of a series of 5 cases on the practice of vaginal caesarean section at the Sominé Dolo Hospital and Reference Health Center of the Sanitary District of Bla in Mali between 2005 and 2022. **Results:** We performed a vaginal caesarean section on 5 patients in this series. The indications were retroplacental hematoma in 2/5 cases including 1 with a live fetus, eclampsia crisis in 1/5 cases, dystocia on uterine prolapse in 1/5 cases and beating cord prolapse in 1/5 cases. In the 5 cases, the pregnancy was not at term. In 3/5 cases, cesarean section was indicated to save the non-term fetus with a very low possibility of success by classic cesarean section and in 2/5 cases for maternal rescue with fetal death in utero. 2 live newborns were released in satisfactory condition, 1 died after 6 hours of life. Antibiotic therapy was not necessary in the majority of cases. The average length of hospitalization was 3 days. **Conclusion:** The circumstances of the realization of the vaginal cesarean section in our series of studies remain frequent in the practice of modern obstetrics. The short duration of hospitalization and the low use of antibiotics can contribute to the reduction of the medical cost of caesarean section in low-income countries, such as Mali.

Keywords

Vaginal Cesarean, Indications, Mali

1. Introduction

The vaginal caesarean described since the 19th century [1] and distributed in France by Malinas and Ghosn [2] and their team remains unknown to many practitioners. The publications available on the subject are rare and often very old. This situation is explained by the quarrels of schools from the first descriptions of the technique and its sterile opposition to other obstetric interventions in particular the dilators compared to its indications within the framework of late medical abortions [2]. These clan debates did not make it possible to appreciate the real advantages of vaginal caesarean section and promote the training of young practitioners. However, vaginal caesarean section solves certain difficulties in obstetrical decision-making. Based on case reviews [3] and updates from learned societies [4], some practitioners have chosen vaginal caesarean section which was considered by others to be obsolete. These authors have reported its benefits in modern obstetrical practice throughout the world not as an alternative to classical abdominal caesarean section, but as a useful and necessary complementary surgical technique in particular obstetrical situations. Practiced for medical termination of pregnancy [4] and evacuation of uterine contents with fetal death in utero in the 2nd trimester, the indications for the vaginal caesarean section have evolved and it is performed in modern practice on a living fetus [5]. Despite its advantages, few studies have been carried out on the subject in Africa [6] and no study is available in the literature in Mali. We, therefore, initiated this review on a series of 5 clinical cases carried out at the Sominé Dolo Hospital in Mopti and at the Gynecology-Obstetrics Unit of the Reference Health Center of the Health District of Bla to report the experience of our team on the subject in Mali.

Description of the vaginal caesarean section technique

The technique consists of fetal extraction through the cervix after incision of the cervix or the lower segment. It can be performed under general or loco-regional anesthesia. The patient is installed in the gynecological surgical position. A urinary catheter is inserted. The cervix is grasped by a forceps at 10 o'clock and another at 2 o'clock. It is pulled down and back for better exposure. The procedure begins with a semi-circumferential incision in the vagina just above the colpo-vaginal junction which allows the opening of the vesico-uterine space. The vesico-uterine detachment is done sufficiently with the finger or the compress to expose the lower segment or the cervix well. This detachment is easier on a gravid uterus. The bladder is pushed back from the incision field by a valve. The hysterotomy is performed sagittally by incising from the external orifice and on the anterior lip of the cervix. The upper angle of the hysterotomy should be marked before fetal extraction to facilitate suturing afterward. The extraction of the fetus is done cephalic or podalic. This extraction can often be facilitated by the use of a suction cup or forceps or a slight pressure on the uterine fundus. Manual delivery is followed by uterine revision. The hysterorrhaphy is performed in separate stitches or in a simple extra mucosal overlock from the upper corner point of the incision.

The procedure ends with an overlock suture with an absorbable suture of the semi-circumferential vaginal incision. The main complications are bladder lesions and hemorrhagic complications. Although easy, performing a vaginal caesarean section requires basic training in vaginal surgery.

2. Presentation of the Cases

2.1. Case 1

A 19-year-old primiparous patient was admitted on May 12, 2005 at 2:20 p.m. to the obstetric emergency department of the Sominé Dolo Hospital in Mopti for fetal death in utero on a 28-week pregnancy after an eclampsia attack at home. The admission examination noted: obnubilation, blood pressure at 180/110 mmHg, massive albuminuria, absence of uterine contraction and fetal heart sounds, short cervix closed. The decision for fetal expulsion was made. We, therefore, placed 50 micrograms of Misoprostol intravaginally which should be renewed every 06 hours and the infusion of Oxytocin should begin at 3 cm of cervical dilation, 4 g of Magnesium Sulfate in IV infusion, in 100 ml of sodium chloride at 0.9% in 15 minutes, 1000 mg of Methyldopa orally. At 3 p.m., 2 new successive convulsive crises occurred. The cervix was short and open to about 2 cm without uterine contraction. We made the decision for caesarean section in the following context:

- Preterm fetal death therefore low fetal weight;
- Primiparous with desire for several pregnancies in the future.

We chose the vaginal caesarean which has the advantage of duration of intervention and short hospitalization, less risk of poor uterine healing compared to the abdominal caesarean at this stage of pregnancy which is likely to be bodily. The vaginal caesarean section was performed under general anesthesia in 23 minutes. It allowed cephalic extraction of a fetus of 550 g. 12 hours after surgery, consciousness was clear, BP: 130/70 mmHg. She received vulvo-vaginal cleansing 3 times a day with povidone-iodine diluted to 10%. She received no antibiotic treatment. She was discharged on May 16, 2005. She became pregnant again in 2007 and delivered normally without complications on October 12 with a full-term newborn of 2950 g.

2.2. Case 2

A 35-year-old patient, parity 3, living children 3, last delivery by caesarean section for 2 years, was admitted to the obstetrical emergency department of the Sominé Dolo Hospital in Mopti on February 2, 2006 at 10:00 a.m. for haemorrhage on pregnancy of 30 ultrasound SA. On admission, we note: blood pressure at 140/90 mmHg, pale conjunctivae, tense uterus, absence of fetal heart sounds, 2 weak uterine contractions every 10 minutes, cervix rigid and dilated 4 cm, minimal bleeding made of blood blackish, hemoglobin level 09 g/dl. We, therefore, concluded that there was a retroplacental hematoma with in-utero fetal death in a 30-week pregnancy in the latency phase of labor. Faced with the risk of coagu-

lation disorders and hemodynamic disorders in a context of shortage of blood products (fresh plasma and platelet concentrate) in the Mopti region located 650 km from Bamako the capital, we indicated cesarean section for childbirth fast. In a context of desire for new pregnancies, moderate anemia, low weight and fetal death, we chose vaginal cesarean section. It avoids further weakening the existing uterine scar, shortens the time of intervention and the duration of hospitalization and reduces the consumption of antibiotics. Performed under general anesthesia in 25 minutes, it allowed easy podalic extraction of a non-living fetus weighing 1050 g. She received two 450 cc bags of whole blood and local vaginal care without antibiotic therapy. She was released on February 5, 2006 in satisfactory condition without complications. A new pregnancy occurred in 2009. She gave birth normally at 40 weeks of amenorrhea and 2 days of a newborn weighing 3250 g.

2.3. Case 3

A 38-year-old patient, parity 4, living children 2, pregnant, followed in 2009 at our department at the Sominé DOMO hospital in Mopti for a history of repeated stillbirths. During the first prenatal consultation at 10 weeks of amenorrhea, we have the link between the history of stillbirth and state of chronic arterial hypertension. She was put on Methyldopa at a dose of 500 mg twice a day which stabilized the blood pressure at 120/80 mmHg and Salicylic acid at 100 mg per day and iron associated with folic acid at 60 mg per day. She was followed at a rate of one consultation per month until 28 weeks of amenorrhea without complications. On July 22, 2009 at 9:45 p.m., she consulted urgently for abdominal and pelvic pain and minimal metrorrhagia. On examination, blood pressure is noted at 150/90 mmHg, absence of albuminuria on the strip, uterus not very tense, fetal heart sounds present and irregular at 100 beats per minute short cervix open with 1 finger. The emergency ultrasound showed placental abruption with a live fetus at 31 weeks. We indicated and made the choice of vaginal caesarean section in the following context: the state of suffering of the fetus, the uncertain prognosis of the fetus and the mother's desire to save the child. This context requires a less invasive, faster and more obstetrically preserving method such as vaginal caesarean section. Performed in 29 minutes, it allowed without complications the extraction by forceps of a live fetus of 1250 g, Apgar score at the 1st minute 4/10 and 7/10 at the 10th minute. The child was transferred to neonatology. He died 6 hours after admission. The mother was discharged after 3 days of hospitalization.

2.4. Case 4

A 24-year-old patient, parity 4, evacuated from a community health center for prolonged labor on July 17, 2016. She was admitted the same day to the Obstetrical Emergency Department of the Bla Reference Health Center. The admission examination noted 3 contractions every 10 minutes, fetal heart sounds audible at

110 beats per minute and irregular, cephalic presentation at the level of the vulva covered by the thick cervix dilated at 5 cm. It was concluded that there was acute fetal distress due to cervical dystocia on uterine prolapse. We have indicated vaginal caesarean section in the following clinical context:

- The entire head of the fetus was engaged and extraction by abdominal caesarean section was no longer possible;
- Fetal distress requiring immediate delivery which was impossible without vaginal caesarean because the cervix was only 5 cm dilated.

The performed vaginal caesarean resulted in the extraction of a live newborn weighing 2400 g with an Apgar score of 5/10 at birth, which was successfully resuscitated. The follow-up was simple and the mother and newborn came out on the 3rd day. She was seen again 3 months after the caesarean section. The prolapse was spontaneously reduced and there was a fine, linear scar on the cervix. We lost sight of her after this consultation.

2.5. Case 5

A 30-year-old patient, parity 2, first by caesarean section, was admitted on August 10, 2017 at 8:45 a.m. to the maternity ward of the Bla Reference Health Center for threatened premature delivery in a pregnancy estimated at 33 weeks of amenorrhea. The admission examination notes: irregular uterine contractions of low intensity, audible and regular fetal heart sounds 140 beats/minute, cervix short open and admitting a finger, breech presentation, membranes intact. She received Nifedipine 20 mg orally every 8 hours; Betamethasone 12 mg IM. On the 3rd day of hospitalization, she presented with a premature rupture of the membranes with codon prolapse beating at 100 beats per minute, erased cervix dilated at 3 cm, and breech presentation. We asked for an emergency caesarean section for fetal rescue with a very uncertain prognosis because of prematurity and hypoxia on an already scarred uterus. We have chosen the vaginal caesarean of short duration to quickly save the fetus and be less invasive to preserve the future possibilities of vaginal delivery in case of failure. She has among the podalic extraction of a newborn female weighing 2200 greanimated. Apgar score was estimated at 5/10 in the 1st minute and 8/10 in the 10th minute after birth. The caesarean section lasted 28 minutes under spinal anesthesia without complication. Mobilization and feeding of the patient were authorized 6 hours after the operation. The suites were simple. The discharge of the mother and the newborn was authorized on the 3rd postoperative day. A new pregnancy occurred in 2021. She was monitored at the center's obstetrics unit until term. She gave birth on June 17, 2022 at 6:45 a.m. normally vaginally in a natural way to a newborn weighing 3050 g.

3. Discussion

Dührssen [1] recommended widespread use of vaginal caesarean section in the 19th century. This position was not shared by all practitioners. Medical termina-

tion of pregnancy is one of the main indications found in the literature [7]. This is explained by the frequent requests for caesarean sections from patients and their families in the event of a medical indication for premature termination of pregnancy to quickly end the procedure, which constitutes a psychosocial pressure. The vaginal caesarean section, which has the advantage of being less hemorrhagic, is, in this case, the best alternative to the classic caesarean section which is obligatorily bodily at this term of pregnancy. It also makes it possible to expel the entire fetus, a culturally important situation for some patients [8]. In this series, we did not record any indication of medical termination of pregnancy before term. But the clinical case 1 of our series, the caesarean section was performed to improve the neurological state of the mother during the crisis of eclampsia but the fetus had died in utero. The caesarean was indicated to shorten the expulsion time and we chose the caesarean which is less hemorrhage with a shorter duration of intervention and hospitalization. Clinical case 2 allowed the expulsion of a dead-in-utero fetus on a retroplacental hematoma. The vaginal caesarean had the advantage of quickly emptying the uterus and thus avoiding the risk of bleeding disorders and weakening the old uterine scar by a new incision. This indication is reported by many authors [3] [6] [9] [10]. For clinical cases 3 and 4 the cesarean section was indicated to save the suffering fetus with little probability of success. They were respectively a living fetus on a retroplacental hematoma uterus associated with prematurity and a non-term fetus suffering from cord prolapse. Gueye *et al.* [6] reported live newborn cases in his series. The speed of performance, the low risk of complication, the less invasive nature of the technique were the determining criteria for the choice of vaginal caesarean section in these cases of fetal rescue with an uncertain prognosis. In observation No. 5, the caesarean section saved a total head fetus involved in acute suffering by cervical obstacles on a uterine prolapse. The expulsion of this fetus was no longer possible by classic caesarean because of the total and complete engagement of the head. A similar case was reported by Verma *et al.* [5] in 2018 in India.

The duration of postoperative hospitalization in our series was short, on average 3 days and 4 patients out of 5 did not use antibiotics. These reduce the medical cost of the surgery. We did not record any operative or postoperative complications.

4. Conclusion

The circumstances of realization of the vaginal cesarean section in our series of studies remain frequent in the practice of modern obstetrics. The short duration of hospitalization and the low use of antibiotics can contribute to the reduction of the medical cost of caesarean section in low-income countries, such as Mali.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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