

Longitudinal Epigastric Incision for Caesarean Section in a Morbidly Obese Patient in a Low-Resource Setting (Cameroon): A Case Report

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Abstract

Obesity is a metabolic condition associated with a significant morbidity and mortality rate. In the pregnant context, this risk is even higher because of the contingent of metabolic and haemodynamic complications present in the ante-, intra- and post-partum periods. In these people, the recommended delivery method is caesarean section, which is not easy to perform. Our aim is to explain the particularities and advantages of epigastric incision in obese women during a caesarean section. The authors report the case of a patient who was admitted to the maternity ward of the Yaounde Central Hospital for management of a post-date, and in whom an elective caesarean section was indicated with an epigastric approach. The vertical supra umbilical incision should be recommended because it is subject to fewer complications and reduces the operating time and hospital stay.

Keywords

Obesity, Caesarean Section, Epigastric Incision

1. Introduction

The relative frequency of obesity in the pregnant population is increasing at an alarming rate [1]. An increasing number of patients with a body mass index

(BMI) > 50 kg/m², the so-called super obesity, are observed [2], which in our context leads to obstetric, anaesthetic and logistical challenges. We describe the management of caesarean delivery (CD) in a parturient with a BMI of 55 kg/m², with emphasis on the patient's profile, operative techniques, complications, and outcome. We are not aware of any previous reports describing caesarean section management in a parturient with a BMI > 50 kg/m² in the African setting.

2. Patient and Observation

We report a case of Caesarean section with an epigastric approach in a 32-year-old pregnant woman, married, gravida 3 with a history of two normal term deliveries by vaginal route and whose last living child was 7 years old. She had been seen in the department for an overdue delivery at 41 weeks (W) and + 2 days (D). It is important to note that, there were no pregnancy complications in this patient. The history of the current pregnancy revealed an unremarkable prenatal follow-up, and an ultrasound performed in the 3rd trimester showed an evolving monofoetal intrauterine pregnancy of 40 W with an estimated fetal weight of 3744 grams. The initial clinical examination of the patient revealed a good general condition, morbid obesity with a BMI of 55.1 kg/m², and other vital parameters were normal. The general examination was unremarkable. The obstetrical examination revealed active fetal movements, a uterine height of 50 cm with a large fatty panicle, the presentation was poorly appreciated as well as the fetal heart sounds on Doppler. The gynecological examination showed a long, posterior, soft cervix, 2 cm dilated, cephalic presentation and intact membranes. We made the diagnosis of an evolving intrauterine pregnancy of 41 W + 2 D on morbid obesity and an elective caesarean section was indicated. The preoperative check-up was normal, and the preanaesthetic consultation was done. The caesarean section was performed at 42 weeks under general anaesthesia with orotracheal intubation. The patient was placed in the supine position with her hands crossed, after asepsis and sterile draping, the incision was median above the umbilicus (**Figure 1**). The tissues were dissected plane by plane. The aponeurosis was incised vertically as well as the peritoneum. The hysterotomy was median, corporal anterior (**Figure 2**), through the placenta and a cephalic fetal extraction was done. The extracted neonate was female with an APGAR score of 8/10 and a birth weight of 4045 grams. Delivery was done manually, hysterorrhaphy was done in 2 planes (**Figure 3**), parietal closure was done plane by plane, with the skin closed in Blair-Donatti stitches (**Figure 4**). The patient was admitted to the surgical intensive care unit for postoperative follow-up and then transferred to the post-natal where she was discharged on day seven postoperation with a favourable evolution and satisfactory healing of the surgical wound.

3. Discussion

Obesity in pregnancy is a real concern for the African obstetricians, both because of the westernisation of dietary habits and because of the marterno-foetal



Figure 1. Median supra-umbilical skin incision. Title: **U** = Up, **D** = Down, **R** = Right, **L** = Left.

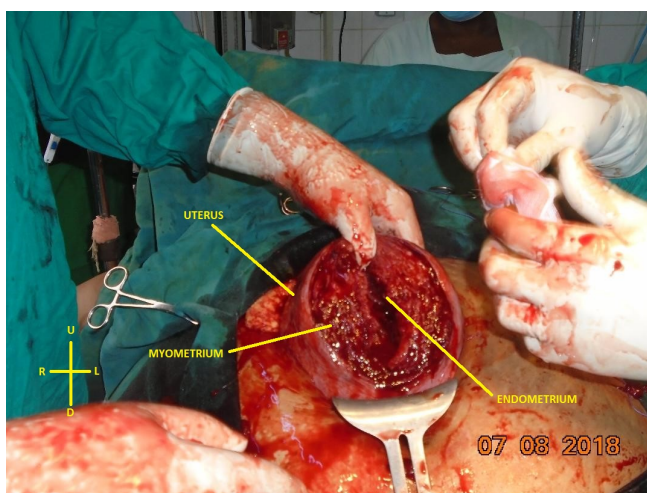


Figure 2. Externalisation of the uterus after fetal extraction. Title: **U** = Up, **D** = Down, **R** = Right, **L** = Left.

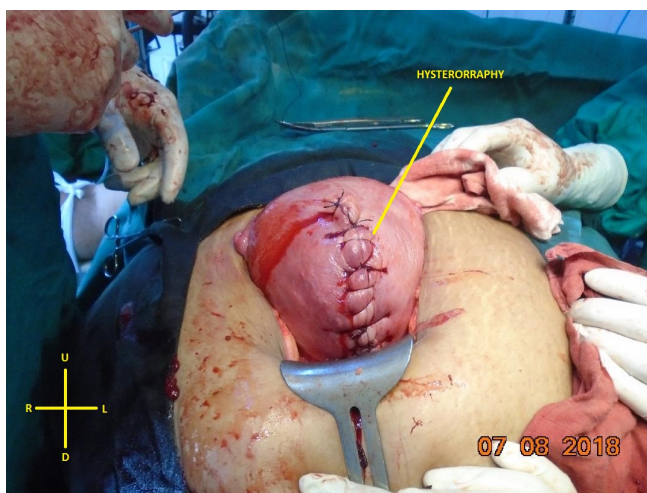


Figure 3. Uterus after hysterorrhaphy. Title: **U** = Up, **D** = Down, **R** = Right, **L** = Left.



Figure 4. Abdominal wall after closure. Title: **U** = Up, **D** = Down, **R** = Right, **L** = Left.

complications associated with this morbid association. The frequency of obesity in pregnancy varies from country to country, but globally ranges from 6% to 20% [3] [4]. In West Africa, we find a rate of 11.3%, with an average age of 30 years, and a high socioeconomic level [5]. This observation leads us to raise awareness among pregnant women who are basically overweight about the considerable weight gain during pregnancy, and to revisit their diet during this period.

At present, there is no consensus on the surgical technique for Caesarean section, ranging from super-obesity to mega-obesity, and from the surgical principle of skin to fetal extraction. In our patient, we proceeded with a median supra umbilical incision of 15 cm in length (Figure 1), the adipose panniculus was retracted with right angle valves and the dean's valve; easily allowing for a median fasciotomy and coeliotomy, hysterotomy was corporal. According to the French and Anglo-Saxon literature [1] [6] several incision variants can be used: the supra umbilical and sub umbilical variants can be median or transverse; the technique of aponeurotic and muscular dissection is classic; the hysterotomy for the most part is corporal anterior [1] [7]. Nevertheless, in these surgical procedures, a difficulty lies in the management of the fatty panicle; according to Mashak Banafsheh [8], in the supra-umbilical approach, the valves alone would be sufficient to retract the fatty panicle, on the other hand, in the sub-umbilical approach, it would be of interest to pull the fatty panicle with leukoplast towards the thorax to allow greater ease of movement during the operation [8].

Generally, the postoperative course depends on the approach used to perform the caesarean section; in the case of our patient we performed a median supra umbilical incision and the postoperative course were unremarkable; the patient was discharged on the 7th day. This evolution corresponds to the data in the literature; in American series comparing the postoperative window between two

groups of incisions (vertical supra umbilical and transverse sub umbilical) we note that the vertical supra umbilical incision exposes to fewer post-operative complications than the transverse one [6]. Moreover, this approach reduces the intervention time and neonatal morbidity [9] [10].

4. Conclusion

Obesity is a systemic disease with a significant frequency in our country. In pregnant women, it alters the prognosis of childbirth in favour of caesarean section. In view of this clinical case, the approach we recommend is the vertical supra umbilical incision because it is subject to fewer complications and reduces the operating time and hospital stay.

Authors' Contributions

Fouelifack received, took charge of the patient and initiated the manuscript, Tatisipie and Kamga participated in the writing of the manuscript as well as its translation from French to English, Mosman translated the manuscript from French to English, Fouedjio participated in the writing of the manuscript.

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We would like to thank the patient who kindly gave her consent for this study.

Ethical Considerations

Prior to the procedure we expressed our desire to publish the case and obtained verbal permission from the patient to take the images and write the manuscript for publication, provided that anonymity was maintained. The information received was treated in the strictest confidence.

Conflicts of Interest

The authors declare no competing interest.

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