



Strategic Utilization of Compression Suture Successfully Saved a Diffuse Couvelaire Uterus: A Case Report

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Abstract

Couvelaire Uterus (CU) is a rare complication arising from life-threatening Placental Abruption (PA), involving the infiltration of blood into the uterine myometrium and serosa. Its occurrence is approximately 1%. The recommended treatment is obstetric hysterectomy, however there are situations where careful monitoring and timely decisions can prevent the need for such a procedure. This is a case where uterus was persevered after diffuse Couvelaire in a young primigravida with intrauterine fetal death.

Keywords: Couvelaire uterus; B-Lynch suture; Preserved uterus; Compression sutures

Introduction

The management of obstetric complexities involving a Couvelaire uterus after an abruptio placentae is a rare and intricate challenge in maternal-fetal medicine. The dilemma of either preserving the uterus or performing a hysterectomy poses a challenge in management [1]. This case report focuses on the crucial use of the B-Lynch suture technique to address the diffuse Couvelaire uterus following abruptio placentae during a cesarean section in a 21-year-old first-time mother with an intrauterine fetal death.

The interplay of intrauterine fetal demise, concealed abruptio placentae, and the emergence of a diffuse Couvelaire uterus in an anemic patient created a high-stakes obstetric situation. Employing the B-Lynch suture technique, well-known for effectively handling postpartum hemorrhage and uterine atony became pivotal in managing the specific complications associated with the Couvelaire uterus [2,3].

This report aims to shed light on the encountered challenges and the strategic steps taken to safeguard uterine integrity, ultimately ensuring a positive outcome for the mother amidst the multifaceted obstetric complexities. It emphasizes the significance of the B-Lynch suture technique in such critical situations.

Case Presentation

We present 21-year-old primigravida from Mbeya Urban in Mbeya region, Southern Highlands of Tanzania. She presented at Mbeya Zonal Referral Hospital with pregnancy of 38 weeks of gestation. She had labor pain and a complaint of loss of fetal movements for 1 day. Her antenatal history was uneventful. Upon examination, she was found to be anemic with a hemoglobin level of 8.6 g/dl. Ultrasound revealed intrauterine fetal death along with concealed abruptio placentae. She was admitted to the labor ward and closely monitored. The patient encountered a prolonged second stage of labor, and consequently, a decision was made to proceed with a cesarean section.

Clinical Findings

Intraoperatively, the uterus was found to be dark in color, with ecchymosis and petechial areas. There was profound myometrial and parametrial damage, leading to hemoperitoneum of approximately 350 ml. This clinical presentation was indicative of a diffuse Couvelaire uterus. A lower segment cesarean section was performed, delivering a nonviable female fetus weighing 2.6 kg along with the placenta.

During the procedure, a retroplacental clot of approximately 500 ml was evacuated. The uterus was found to be atonic and boggy (soft/spongy), necessitating the application of a B-Lynch suture. In addressing the patient's blood loss and anemia, she received a total of 2 units of packed red blood

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cells and 2 units of fresh frozen plasma. Postoperative antibiotics were administered, and she was discharged on the third day after surgery.

Discussion

We present a complicated case involving a Couvelaire uterus. Despite severe myometrial and parametrial damage, along with hemoperitoneum, the patient was successfully treated with preservation of the uterus (i.e. without hysterectomy). The use of the B-Lynch technique proved significant in controlling uterine atony in this case [2,3].

The term 'Couvelaire uterus' refers to a condition in which blood from behind the placenta leaks into the myometrium, occasionally breaching the uterine wall and entering the peritoneal cavity [4,5]. This complication can arise subsequent to abruptio placenta. While Couvelaire uterus is considered rare and estimated to complicate around 5% of all cases of abruption, its precise incidence remains challenging to determine since its diagnosed intraoperative [6].

This case emphasizes the significance of the B-Lynch suture, particularly when confronting the difficulties associated with the care of primigravida women without a living child. Nonetheless, it is crucial to tailor the approach to individual cases. In cases where complications such as a morbidly adherent placenta exist, making the use of the B-Lynch suture unsuitable and necessitating a cesarean hysterectomy [7]. However, some have reported a repair of uterus in ruptured Couvelaire uterus [8].

Conclusion

This case underscores the significance of employing the B-Lynch compression suture in managing Couvelaire uterus even with severe myometrial and parametrial damage. This holds particular importance in instances where preserving the uterus is crucial, as seen in our case involving a young primiparous patient with intrauterine fetal death.

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