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CASE REPORT

Six previous Caesarean births complicated by 2 previous uterine ruptures and a failed bilateral tubal ligation in the last confinement: Caesarean section again for the 7th time with tubal ligation

Charles U Anyaka^{1,2}, Victor C Pam^{1,2}, Christopher O Egbodo^{1,2}, Felix A Elachi², Israel S Iyanda², Jonathan A Karshima^{1,2}, Ishaya C Pam^{1,2}

1. Department of Obstetrics and Gynaecology, University of Jos, Nigeria
2. Department of Obstetrics and Gynaecology, Jos University Teaching Hospital, Jos, Nigeria

ABSTRACT

Caesarean section (CS) is a lifesaving surgical procedure of both the mother and the baby. Increasing number of caesarean births presents a challenge to the parturient and the managing obstetrician. The risk of surgical injuries, rate of blood transfusions, and adhesion formation all rise with increasing number of caesarean sections. Moreso, the number of uterine rupture and hysterectomies has been found to be on the increase with repeat CS in many studies. We present a 37-year-old Gravida Para 6+0,3 alive a case of 6 previous caesarean deliveries with 2 uterine repairs for ruptured uterus during her second and fifth confinements where she had fresh still born babies with 2 and 3 units of blood transfused respectively. She had bilateral tubal ligation (BTL) using the Pomeroy's method in her sixth confinement. However she was seen in her seventh confinement as soon as she was confirmed to be pregnant. She was counselled for a repeat elective CS at term. She was also counselled on contraceptive options available, she opted for a repeat BTL. At 38 weeks of gestation, she had an elective CS with repeat BTL using the Pomeroy's method. A live male neonate that weighed 3.4 kg with APGAR scores of 8¹ and 9⁵ was delivered. There were dense adhesions between the uterus and anterior abdominal walls. The lower uterine segment was very vascular. The right uterine tube appeared normal while the left tube appeared kinked at the isthmic region. Both round ligaments appeared normal. Detailed and thorough counselling of parturient with multiple caesarean sections on the potential challenges with further caesarean birth is apt. Tubal sterilization is highly effective but can fail. Patients should be counselled at the outset about the contraceptive options that are available should sterilization fail.

Keywords: 6 Previous caesarean section, ruptured uterus, Failed BTL, repeat CS

INTRODUCTION

Global overview shows that caesarean births have increased exponentially, over the past years. Use of

caesarean section (CS) deliveries has been steadily increasing, from 6.7% in 1990 to 19.1% in 2014 globally [1,2]. Consequently, the number of deliveries by mothers with prior CS is also on the

rise [1] There is an increase rate of repeat caesarean section (CS), and its benefits and potential risks to the patient such as placenta praevia, placenta accreta, caesarean hysterectomy, uterine rupture and difficulties in surgical dissection. Others include infection, haemorrhage, thrombosis and damage to the bladder, ureters or bowel ^{1,2,3}. Uterine rupture after prior CS is becoming more common as the availability of CS increases in developing countries ^{4,5}. Reports from various authors in Nigeria and other parts of Africa in the last two decades have put the incidence of uterine rupture between 0.36 and 2.44 percent deliveries ⁶. According to a literature review on uterine rupture in developing countries, the proportion of women with prior CS or uterine scar among women who had uterine rupture was up to 64% ⁴.

Several studies have found association between multiple repeat caesarean section and maternal complications ^{2,7}. Furthermore, many clinicians suggest sterilization to women following two or three CS due to risk of uterine rupture and several complications ⁸. In Nigeria where large families are encouraged for social and cultural reasons, sterilization is not readily accepted by most women. In addition, there has been an ongoing debate about the recommended maximum number of CS that a woman may safely have.

Counselling of parturient with multiple CS is very important on limitation of family size ⁹. No absolute upper limit for the number of repeat caesarean deliveries can be given. Patients must be informed of the risks of multiple CS and encouraged to have tubal ligation ¹⁰. Most obstetricians will perform a bilateral tubal ligation (BTL) in the event of uterine rupture as a preventive approach to forestall this life-threatening disaster ^{11,12}. It becomes more precarious if a parturient who had a BTL after a uterine rupture becomes pregnant again as seen in this case. Available evidence suggests that sterilization fails in 0.13-1.3% of sterilization procedures and of these, 15-33% will be ectopic pregnancies ¹¹.

Although, tubal sterilization is considered a permanent method of fertility control, pregnancy can occur in 1 in 200, according to international sources. In the 1st year after tubal sterilization, the estimated failure rate is 0.1-0.8% ¹³. Tubal recanalization, cornual and tuboperitoneal fistula formation are the main causes; their occurrence can

be reduced by proper training and use of appropriate sterilization techniques ^{11,13}.

Case presentation

We present a 37-year-old Gravida 7, Para 6+0,3 alive a case of 6 previous caesarean deliveries with 2 uterine repairs for ruptured uterus during her second and fifth confinements where she had fresh still born babies with 3 and 2 units of blood transfused respectively. She had bilateral tubal ligation (BTL) using the Pomeroy's method in her sixth confinement.

However, she was seen in her seventh confinement as soon as she was confirmed to be pregnant two months after she missed her periods. She expressed concern of an apparent failed BTL procedure. She was counselled on early antenatal commencement with regular follow up visits.

AT BOOKING

She booked at the antenatal clinic of JUTH on 13/5/21 at 13 weeks 2 days gestation by her last menstrual period and the pregnancy had been uneventful.

OBSTETRIC HISTORY:

She was a Para 6⁺⁰ (3 alive).

2008: She received antenatal care in a private maternity clinic in Jos Plateau state. She had an emergency caesarean birth at term. The indication of CS was cord prolapse in same hospital with delivery of a 4.1 kg live female baby. The baby died within 24 hours of delivery. There were no puerperal complications.

2009: She received antenatal care in same private maternity clinic in Jos Plateau state. She had laparotomy and uterine repair in Federal medical centre Owerri (FMC) Imo state for ruptured uterus at term with extraction of a 3.8 kg fresh still born female baby. She was transfused with 2 pints of blood. She was discharged after 7th day after surgery. There were no puerperal complications.

2011: She received antenatal care in same private maternity clinic in Jos Plateau state. She had an elective caesarean birth at in same hospital

due to two previous caesarean sections with delivery of a 3.6 kg live male baby. There were no puerperal complications. The boy is doing well in school

2014: She received antenatal care in same private maternity clinic in Jos Plateau state. She had an elective caesarean birth at in same hospital due to three previous caesarean sections with delivery of a 3.8 kg live male baby There were no puerperal complications. The boy is doing well in school

2016: She received antenatal care in a different private maternity clinic in Jos Plateau state. She however had an emergency caesarean birth at term in Bingham University Teaching Hospital (BUTH) in Jos due to repeat ruptured uterus with four previous caesarean sections with extraction of a 3.5 kg fresh still born male baby. She had 3 units of blood transfused. She was discharged on the 7th day after surgery. There were no puerperal complications.

2018: She received antenatal care in Jos university teaching hospital (JUTH), Jos Plateau state. She had an elective caesarean birth with bilateral tubal ligation at term in same hospital due to five previous caesarean sections with delivery of a 3.0 kg live female baby. She was transfused with 2 units of blood. There were no puerperal complications. The girl is alive and well.

2021: She received antenatal care in Jos university teaching hospital Jos Plateau state. She had an elective caesarean birth with repeat bilateral tubal ligation in same hospital due to six previous caesarean sections with delivery of a 3.4 kg live male baby. There were no complications prior to her discharge from hospital.

GYNAECOLOGICAL HISTORY:

She attained menarche at 13 years of age. She menstruates for 4 days in a regular cycle of 28 – 30 days. The menstrual flow was normal and there was no dysmenorrhoea. Her last menstrual period was 6/2/2021. She was aware of contraception and had been counselled for bilateral tubal ligation during

her last confinement in JUTH which was done after the 6th caesarean delivery in JUTH which she had consented to.

FAMILY AND SOCIAL HISTORY

She was a housewife with Ordinary national diploma (OND), married to a 50-year-old driver of a private company in Jos with secondary level of education. She was the only wife of her husband. She neither took alcohol or tobacco in any form. There was no family history of hypertension, diabetes mellitus.

SYSTEMATIC REVIEW

There were no additional findings.

PHYSICAL EXAMINATION

She was healthy looking, neither pale nor jaundiced and had no pedal oedema. She was 1.54 m tall and weighed 90 kg.

BREASTS

There were well formed with no palpable masses.

RESPIRATORY SYSTEM:

This was normal.

CARDIOVASCULAR SYSTEM

Her pulse was 82 beats per minute and blood pressure 100/60 mm Hg. The heart sounds were normal and there were no murmurs.

ABDOMEN

The abdomen was uniformly enlarged with a midline subumbilical scar. The liver and spleen were not palpably enlarged and the kidneys were not ballotable. The symphysio-fundal height was consistent with a 14-week gestation size uterus, which was compatible with her date.

IMPRESSION

Normal intrauterine pregnancy with six previous caesarean births, two previous uterine repairs for two ruptured uteri at term and a failed BTL.

Table 1. Past obstetric histories

Year	Place of ANC	Indication	Gestational Age	Type of delivery	Birth weight(kg)	Foetus
2008	Maternity home in Jos	Cord prolapses	Term	Emergency CS	4.1	Female, died <24 hour after delivery
2009	Maternity home in Jos (same as above)	1 Previous CS+ ruptured uterus	Term	Emergency CS+ uterine repair I n FMC Owerri. 2(.) of blood transfused	3.8	Female, Fresh still born
2011	Maternity home in Jos(same as above)	2 Previous CS	Term	Elective CS	3.6	Male. Alive
2014	Maternity home in Jos (same as above)	3 Previous CS	Term	Elective CS	3.8	Male, Alive
2016	Maternity home in Jos (different from above)	4 Previous CS+ ruptured uterus (second time)	Term	Emergency CS in BUTH Jos. 3(.) of blood transfused	3.5	Male, Fresh still born
2018	JUTH	5 Previous CS+ 2 previous ruptured uterus	Term	Elective CS +BTL in JUTH Jos	3.0	Female, Alive
2021	JUTH	6 Previous CS + 2 previous ruptured uterus	Term	Elective CS +repeat BTL in JUTH Jos	3.4	Male, Alive

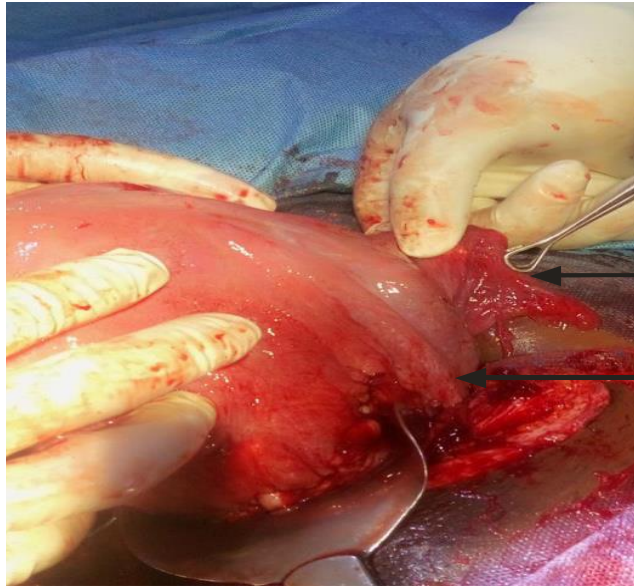
RESULTS OF INVESTIGATIONS

Haemoglobin Concentration	12 g/dl
Packed cell volume	36%
Blood group	O rhesus 'D' positive
Haemoglobin Genotype	AA
VDRL, HbsAg, anti HCV Test	Non-reactive
Urinalysis	Normal

ANTENATAL PERIOD

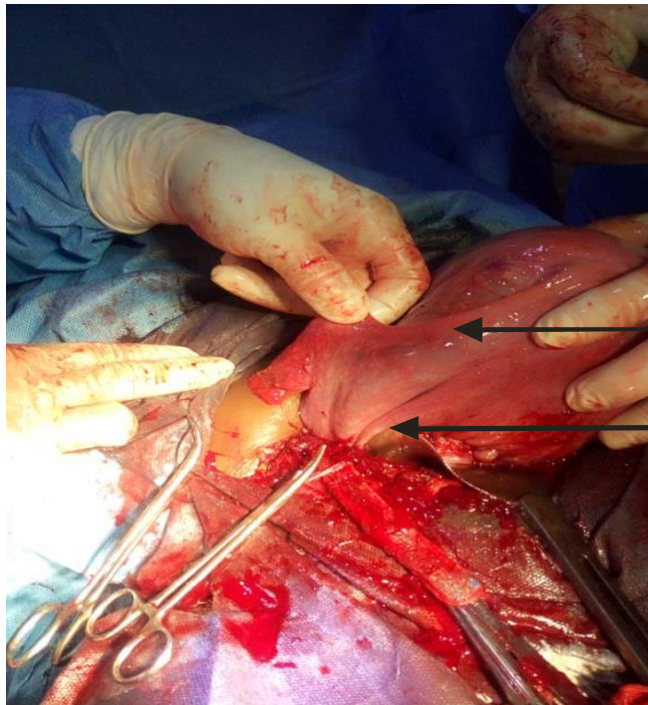
She was seen regularly at the antenatal clinic. She had Sulphadoxine-pyrimethamine combination

tablets at 18 and at 32 weeks' gestation. She also had ferrous sulphate tablets 200 mg and folic acid tablets 5 mg daily. The blood pressure remained within normal limits. The uterine size increased correspondingly with the date of gestation. She was counselled for a repeat elective CS at term. She was also counselled on contraceptive options available, she opted for a repeat BTL. At 38 weeks of gestation, she had an elective CS with repeat BTL using the Pomeroy's method. A live male neonate that weighed 3.4 kg with APGAR scores of 8¹ and 9⁵ was delivered There were dense adhesions between the uterus and anterior abdominal walls. The lower uterine segment was very vascular.



Left Uterine tube kinked at the isthmus

Left round ligament



Right uterine tube

Right round ligament

The right uterine tube appeared normal while the left tube appeared kinked at the isthmus region. Both round ligaments appeared normal. The estimated blood loss after surgery was 500 mls. She had an uneventful postoperative period. She was discharged home on the 5th day post-surgery with no complaint and PCV of 33%.

She was seen again 2 weeks post-surgery in the post-natal clinic with no complaint. The wound was well apposed and her baby was doing well. She was seen again at 6 and 12 weeks post-delivery. She had no complaint and was doing well. She was then discharged from the post-natal clinic

DISCUSSION

We presented a 37 year old gravida 7, para 6+0,3 alive a case of 6 previous caesarean deliveries with 2 uterine repair for ruptured uterus during her second and fifth confinements where she had fresh still born babies with 2 and 3 units of blood transfused respectively. She had bilateral tubal ligation (BTL) using the Pomeroy's method in her sixth confinement. She was seen again in her seventh confinement after a failed BTL procedure where she had a repeat CS and BTL.

A considerable obstetric hazard of multiple repeat caesarean section is previous uterine scar rupture with consequent increase in both maternal and foetal morbidity and mortality¹⁴. This is noted in our case in her 5th confinement in 2016 after her 4th CS. She booked the pregnancy for antenatal in a maternity home as in the previous earlier confinements. She was only referred to a tertiary facility Bingham University Teaching Hospital (BUTH) Jos, because she had repeat uterine rupture and fresh still birth. Counselling of patients with multiple repeat CS on the need for early booking of pregnancy in a good facility for proper monitoring is paramount. Surgical management anticipating haemorrhage, ICU and blood bank services should be available in managing such patients¹⁵. These were offered to this patient in BUTH. Many authors have reported that many women prefer to receive antenatal, delivery and post-natal services provided by maternity homes traditional and faith-based birth attendants in Africa including high risks obstetric cases¹⁶. This patient had her antenatal care for the first five confinements in such facilities, but with proper counselling she subsequently used tertiary facility (Jos University Teaching Hospital (JUTH) Jos, for her last two pregnancies. Myriad reasons have been given for this pattern of poor utilization of maternal health services by Nigerian women. These include inability to pay for services^{17,18}. Our patient gave the rising cost of services as the reason to seek for cheaper service in maternity home in her first five confinements.

Evidence now shows that the use of unskilled providers for antenatal and delivery care is one of the major predisposing factors to high rates of maternal morbidity and mortality in many sub-

Saharan African countries¹⁹. In 2016, booking for ANC in a good facility with close monitoring during antenatal period probably could have prevented the second uterine rupture. Much caution should be exercised in patients with a history of prior uterine rupture due to the elevated risk of recurrent rupture at the previous rupture site²⁰. She was allowed to try for vaginal delivery after 4 previous CS in the maternity home.

Tubal sterilization is highly effective but can fail. Patients should be counselled at the outset about the contraceptive options that are available should sterilization fail¹¹.

This patient should have had a BTL done after her the first uterine rupture in 2009 but this was not done because she had no living child at that time. This should also have been done after her second uterine rupture in 2016 but with two children alive it was probably thought in BUTH that she could be allowed for further child bearing.

This patient made an informed judgement for a BTL in her 6th confinement in JUTH in 2018 which unfortunately failed. With detailed counselling in her last confinement, she opted for a repeat BTL

Having postnatal discussions with uterine rupture patients about subsequent fertility is also a good practice, in view of its possible recurrence. Contraception advice is necessary and it must be adequately conveyed to the couple that shorter interpregnancy intervals may increase the risk of rupture²⁰.

CONCLUSION

Detailed and thorough counselling of parturient with multiple caesarean sections on the potential challenges with further caesarean birth is very important. Surgical management anticipating haemorrhage, dedicated maternal ICU, blood bank services should be available for these patients.

Tubal sterilization is highly effective but can fail. There is a paucity of information in the literature as to what is best or most appropriate for patients when sterilization fails. Patients should be counselled at the outset about the contraceptive options that are available should sterilization fail

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