

# Should We Operate On Fibromas During Caesarean Sections: A Case Report and Literature Review

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## Abstract

**Background:** Leiomyomas, otherwise known as fibroids, are common, and are reported to affect 45-60% of women by the age of 35. One third of these benign tumours will grow in size during pregnancy. Fibromas are associated with many early and late pregnancy complications and can even cause infertility. It is important that clinicians are aware of potential complications associated with fibromas and the difficulties that they pose during delivery. This is so that they can counsel patients appropriately -particularly in regard to high rates of miscarriage, premature labour and even obstruction of the pelvic inlet and outlet mimicking a placenta praevia.

**Objective:** Traditionally, anterior wall uterine fibroids required clinicians to perform a classical uterine incision during caesarean section. However, as caesarean sections rates increase, and we manage a more ethnically diverse population who are more likely to have fibroids, it is important that we review the safest surgical techniques to manage fibroids discovered at caesarean section.

**Results:** We have highlighted in this literature review an interesting case of a patient in her fourth pregnancy, who had had three previous complicated caesarean sections, and a large anterior subserosal fibroid covering the lower uterine segment, discovered when we performed her fourth caesarean section. This case was managed with enucleation of the fibroid so that we could access the lower uterine segment and deliver baby. Blood loss was minimal and the patient recovered quickly with no intraoperative or postoperative complications.

**Conclusion:** Proper identification and surgical planning is required before performing any suspected complicated caesarean section particularly when a patient has fibroids. Caesarean myomectomies (CM) are possible, as we performed in this case, although they should be avoided when intramural or extremely large fundal fibroids are present. Clinicians should be aware of all possible strategies to manage fibroids during caesarean section, particularly as the number of patients we are managing with fibroids is increasing.

## INTRODUCTION

Literature encourages clinicians to perform a classical caesarean section for patients with fibroids who require a caesarean section. In fact, published studies go as far as discouraging clinicians from performing myomectomies at the time of caesarean section (2,3). The reason being myomectomies often result in severe haemorrhage from the base of fibroid and, if the bleeding cannot be controlled, lead to hysterectomy.

The management of fibroids during caesarean section has changed over the last two decades. It is now recognised that leaving fibroids at the time of caesarean section is not

without its own complications (4). The way in which caesarean sections are performed for women with fibroids is also changing and caesarean myomectomies (CM) are being performed more commonly.

It is important that when a patient is known to have fibroids, the fibroids are accurately located with ultrasound and the size of the fibroids documented; this is to aid surgical planning before performing caesarean section. Obstetricians would traditionally perform a midline incision and a classical hysterotomy for anterior wall fibroids particularly fibroids which are obscuring the lower segment. However, as our case report highlights, an alternative surgical

technique for large, anterior uterine wall fibroids found at the time of the caesarean section is to perform a caesarean myomectomy.

### **CASE STUDY**

A 34-year-old, Black African woman, who had had three previous caesarean sections, was booked for routine elective Caesarean at 39 weeks. Her last caesarean section was 10 years ago, and was complicated by severe adhesions and extensive bleeding. During her fourth and current pregnancy she had had multiple growth scans. There was no evidence of a growth restricted baby. The fibroid size was not commented on at every scan particularly her final growth scan at 36 weeks. A bedside scan on the morning of the caesarean section identified the lower uterine wall subserosal fibroid.

The caesarean section was performed by routine entry into the abdominal cavity via a Pfannenstiel incision along the natural skin fold. There were extensive adhesions immediately beneath the skin and also in the rectus sheath layer. The rectus muscle fascia was opened with a scalpel in the midline, and then blunt dissection was used to open the sheath at each lateral edge.

Entry into the peritoneal cavity was completely obscured by a solid, large mass, approximately 12-13 cm in size and in the midline of the cavity. Any attempt to enter the abdomen by opening the space laterally to the mass was difficult due to dense scar tissue, and resulted in bleeding. Enucleation of the mass was performed and that allowed us to reach, and finally open, the lower segment of the uterus with a transverse incision. There was clear liquor. The fetus was in oblique cephalic presentation. The baby was delivered by breech extraction as it was too difficult to deliver the baby head first due to dense scar tissue.

A female baby infant, who weighed 2,740 grams, was born in very good condition. The Apgar score were 9 and 10 at 1 and 5 minutes respectively. The cord gases were 7.3 (arterial) and 7.37 (venous). The placenta was removed by controlled cord traction and the uterine cavity was checked to ensure it was empty. Oxytocics were given intravenously and high dose syntocinon infusion started. Inspection of the anterior wall of the uterus showed the uterine wall was inseparable from the abdominal wall. The hysterotomy incision was secured in only one layer with a second line of interrupted stitches on top of the incision to secure haemostasis. The length of the incision was then shortened with a complimentary line of stitches beneath the transverse

incision to compress the lower segment<sup>13,14</sup> and extra stitches applied to eliminate the empty space between the abdominal wall and the uterine muscle.

Finally, a Robinson size 14 vacum drain was placed in the area, to collect bleeding from the adhesions and to prevent blood collecting in the postnatal period.

### **RESULTS**

The measured blood loss was 800 mls in theatre. The patient remained stable throughout the procedure. She was prescribed prophylactic antibiotics to cover the postnatal period. The drain remained in situ for a further two days and 500 mls of blood was drained. Her haemoglobin was checked on day one and two and there was no need for any blood to be transfused. She was discharged home on day three. The couple were seen a week after discharge, and debriefed. The scar healed well with no signs of postnatal complications. Histology of the tumour showed a large benign leiomyoma with central infarction, no evidence of malignancy. A written consent was taken to publish the case.

### **DISCUSSION**

Caesarean section myomectomies have been performed since the 20th century. Victor Bonney was in fact the first surgeon to perform a Caesarean myomectomy (CM) in 1913. He removed six fibroids at the time of caesarean section in a 30-year-old nulliparous woman with fibroids (6,7).. Subsequently, the woman went on to have three vaginal deliveries. It is not a new surgical technique, but it does have some significant advantages, and it is important that surgeons are aware of it and it is in their surgical toolkit.

A smaller uterine incision is required to remove fibroids during CM. Another advantage<sup>(5)</sup> of CM is that it allows the surgeon to identify the cleavage plane more easily. The patient benefits as they have two operations – a myomectomy and a caesarean section at the same time – resulting in a shorter recovery period. CM also provides longer term symptom relief from fibroids and definitive removal. There have been longer term complications reported in the literature, such as uterine rupture and adhesion formation, however these complications have only been reported in a few studies<sup>(5)</sup>.

Ashley and Khalil (8) et al studied 111 women who underwent myomectomy at the time of caesarean section. These results were then compared with the results of 237 women with fibroids who did not have them removed at the time of caesarean section. There were no significant

differences in terms of intraoperative or immediate complications between the two groups. The incidence of haemorrhage was also similar in both groups, approximately 12.6-12.8 per cent of patients in both groups haemorrhaged, but patients rarely required transfusion. Patients included in the study had all manner of fibroids, the average fibroid size was 3.5 cm but the range was from 1-20 cm. The average gestation at the time of delivery was also similar in both groups and ranged from 24-42 weeks. In almost all cases a transverse hysterotomy incision was made to deliver the baby. The authors of the study concluded that caesarean myomectomies, in selected cases and in experienced hands, is safe to do. It can be used as an alternative approach to the usually recommended classical caesarean particularly in cases of anterior uterine wall fibroids. Intramural fibroids, however, should be approached with greater caution and large fundal fibroids should also be left alone during caesarean section. Cunningham et al (2), also agrees that large fundal and intramural fibroids shouldn't be operated on at the time of caesarean section, attempting to do so can lead to profuse bleeding and hysterectomy. Generally, involution will occur for such fibroids after pregnancy, making it easier to remove at a later date (2,3).

Literature reports that leaving fibroids, and not removing at the time of caesarean section, can in fact cause complications in the postnatal period. Sireesha Y (4) et al reported on a case where a large posterior wall fibroid was not removed during a caesarean section but the patient then had to have it removed 6 weeks postpartum. The patient was admitted with acute urinary retention and a large mass occupying the lower uterine cavity and had to have an emergency myomectomy. Another study found that 40.9% of women who had a caesarean section then had to have fibroids removed 6-38 months following their caesarean section (11).

Fibroids are more common in Black-African population. A pertinent study, conducted in the African subcontinent by J.O. Awoleke (9) concluded myomectomies during Caesarean are safe with careful patient selection, adequate experience, and efficient haemostatic measures. It has significant advantages particularly in low resource countries as it could eliminate the need for multiple surgeries although the success of these procedures relies on the availability of safe blood-banking services.

Traditionally clinicians are concerned about performing myomectomy at the time of caesarean section because of the risk of haemorrhage (8). As shown in our case report,

however, major bleeding does not necessarily have to occur. Major intractable hemorrhage can be caused by Caesarean alone or when caesarean section is combined with myomectomy. Bleeding during Caesarean still remains life threatening; such bleeding can be successfully controlled with compressing sutures and/or using tamponade balloons before a decision is made to proceed with hysterectomy.

Wai Yoong et al (11) reviewed seven women who had caesarean deliveries with an average blood loss of 5.5 litres and were transfused on average 6 units of whole blood. Three of them continued to have peripartum bleeding even after hysterectomy. Abdomino-pelvic packing was performed in all seven cases to arrest further bleeding. This technique is another essential skill for surgeons to have in their toolkit particularly as even after hysterectomy bleeding can still occur.

CM can be performed in certain clinical situations. It is important surgeons are aware of this technique. It might not always be possible to perform a classical caesarean section, as demonstrated in our case report; this was because of dense scar tissue secondary to previous multiple caesarean sections. As our obstetric population becomes more high risk, more patients will have had previous abdominal surgeries, caesarean sections and will become more ethnically diverse CM may be a procedure that we will have to conduct more frequently. A large literature review, however, published by R.Sparic, A.Tinelli (5) et al, has cautioned clinicians about the risks of CM including the risk of perioperative bleeding, reoperation, hysterectomy, arterial embolisation, ligation and blood transfusion. The authors concluded, therefore, that clinicians should be proceed with caution and that more research is required to establish the optimal management of fibroids during CS.

### **CONCLUSION**

CM is an approach to removing fibroids during caesarean section but should be performed with great caution and in only carefully selected cases and by experienced surgeons. It usually requires numerous haemostatic sutures particularly at the base of the fibroid and surgeons must make sure blood bank services are readily available before proceeding.

Intractable bleeding can pose a life-threatening scenario. It is advisable to avoid CM when intramural and large fundal fibroids are present. In our case, enucleation of the anterior uterine wall fibroid was the only option to be able to deliver baby and appropriate care was taken to achieve meticulous haemostasis and avoid any postnatal complications. The

blood loss intraoperatively did not exceed the anticipated blood loss during routine caesarean and the use of oxytocics, intrabdominal drain and antibiotic cover, ensured an uncomplicated recovery postnatally.

## DECLARATIONS

Patient written consent taken for publication. No ethics approval needed. No funding. No conflict of interest.

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