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## Case Report

# Use of intramyometrial carbetocin in caesarean myomectomy to reduce hemorrhage

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## ABSTRACT

Traditionally myomectomy is avoided during caesarean delivery because of potential excessive blood loss. As the size increases, blood supply of leiomyomas also increases in pregnancy, and specifically at term due to the effect of human chorionic gonadotropin. Carbetocin is an oxytocin analog. It is long acting and is effective in preventing blood loss. It has been used in myomectomy to prevent blood loss in non-pregnant uterus. We present a case report where it is used intramyometrial route during caesarean section. A 30-year-old multigravida of 38 weeks period of gestation with previous caesarean section, presented in labor. Her recent ultra sound report showed single live intrauterine fetus of 35 weeks 3 days with a single posterior wall fibroid. The woman requested for myomectomy along with caesarean delivery as she had heavy menstrual bleeding caesarean section was done and myomectomy was planned along with the caesarean section. Intramyometrial carbetocin 100 mcg was used to prevent excessive blood loss. The patient had an uneventful post-operative period. Intramyometrial carbetocin is an effective method to reduce blood loss in myomectomy during caesarean delivery.

**Keywords:** Fibroid, Post-partum hemorrhage, Myomectomy, Leiomyoma caesarean delivery

## INTRODUCTION

Pregnancy is associated with increase in human chorionic gonadotropin (hCG) hormone and one of the major contributors of leiomyoma growth during pregnancy.<sup>1,2</sup>

Prevalence of leiomyomas in pregnancy is found to be 2.7–10.7% with most women being asymptomatic with uneventful pregnancies.<sup>3,4</sup>

Traditionally myomectomies are avoided during caesarean delivery because of huge intraoperative blood loss. As the size increases, the blood supply of leiomyomas also increases in pregnancy and more so at term.<sup>5</sup>

Various interventions to reduce blood loss during abdominal myomectomy are: vaginal PGE2, intramyometrial vasopressin, intramyometrial bupivacaine

and epinephrine, intravenous tranexamic acid (antifibrinolytic), gelatin-thrombin matrix, intravenous ascorbic acid, loop ligation of myoma pseudo capsule and fibrin sealant patch.<sup>6</sup> The most effective oxytocic in controlling huge intraoperative blood loss is carbetocin 100 mcg compared to other uterotronics.<sup>7</sup>

There are very few studies that have evaluated the role of intramyometrial carbetocin to reduce intraoperative and post-operative blood loss. Hence, the aim of the present study was to assess the role of the carbetocin in a patient with fibroid uterus undergoing caesarean delivery.

## CASE REPORT

A 30-year-old woman with an obstetric score of gravida 3, para 1, living 1, abortion 1 of 38 weeks period of gestation with previous caesarean delivery, presented in labor to the

department of obstetrics and gynecology in a tertiary care center affiliated to BLDE (DU) Shri BM Patil Medical College, Hospital and Research Centre, Vijayapura, Karnataka, India. She had no known co-morbidities.

During one of her antenatal visits, she was diagnosed with a single intrauterine pregnancy with a posterior wall fibroid of size 4.6×3.7 cm.

On examination, her pulse rate was 82 bpm and blood pressure (BP) was 120/70. Per abdomen examination findings where uterus was found to be corresponding to 38 weeks with active contractions. The fetal lie was cephalic with a fetal heart rate of 148 beats per minute. On per-vaginal examination revealed that she had cephalo pelvic disproportion, and hence repeat caesarean delivery was planned.

Blood investigations were done and found to be normal and was fit for the surgery. The patient was anxious and worried about her fibroid as she had a history of heavy menstrual bleeding and dysmenorrhea. She wanted the fibroid to be removed if possible.

She was taken up for lower uterine caesarean section with myomectomy, after explaining complications like excessive intraoperative bleeding and need for peripartum hysterectomy.

The abdomen was opened in layers with pfannensteil incision. Lower segment caesarean section was performed. A live baby was extracted. Uterus was exteriorized. A 4×3 cm subserosal fibroid was noted in the posterior wall of uterus near the fundus. After the extraction of the baby, immediately injection carbetocin 100 mcg intramyometrial in the posterior wall of uterus was given to reduce the excessive intraoperative blood loss. Incision was put on the posterior wall with electrocautery and enucleation of myoma was done (Figure 1). Incision was closed with baseball sutures and hemostasis was achieved (Figure 2).



**Figure 1: Myoma being removed.**



**Figure 2: Uterus sutured using baseball sutures.**

Patient started orally after three to four hours and was ambulating 12 hours post-surgery. On post-operative day 2, her Hb was 11.2, which was 1.8 gm/dl drop from the pre-operative hemoglobin. She was discharged on post-operative day 4.

Post-operative period was uneventful.

## DISCUSSION

Fibroid in pregnancy is common in obstetrics. Complication depends on size, number and location of fibroid. It is usually asymptomatic; if present are related to compression or pain.<sup>8</sup>

The most common complication during caesarean section is excessive intraoperative bleeding because of high vascular nature of fibroids.<sup>5</sup>

So traditionally myomectomies during caesarean section was avoided due to bleeding. However, with recent advances in therapeutics and improvement in surgical techniques, bleeding is better managed if a C-section is combined with a myomectomy.

In a retrospective study conducted by Senturk et al, total 361 patients for evaluated, patients who had undergone caesarean section with myomectomy and patients without myomectomy undergone caesarean section were compared with regard to drop in hemoglobin levels, complications, blood transfusion rates and operative period. Results were, operative period was longer in the group who underwent caesarean myomectomy ( $p < 0.05$ ). Fall in hemoglobin level, complication rates, transfusions rates were similar in both groups ( $p > 0.05$ ).<sup>9</sup>

In the meta-analysis conducted by Goyal et al, total 6545 women were evaluated. Out of these, 4702 (71.85%) women in caesarean myomectomy (CM) group and 1843 (28.15%) women in caesarean section (CS) group were there. This study found out that, there was not much clinically significant difference between these 2 groups in terms of blood loss, operative time, complications.<sup>10</sup>

Other study conducted by Jaffer et al, they found that carbetocin is one of the most effective oxytocic compared to others in reducing intraoperative blood loss and also reduces need for additional uterotonics.<sup>11</sup>

So caesarean myomectomy which was forbidden in olden days to be relooked because of better availability of the uterotonics, after taking the consent and proper counselling of the patient regarding the complications associated and to be performed in tertiary hospital to manage the complications efficiently.

In our case we used carbetocin, which is considered to be the best uterotonic and associated with decreased intraoperative blood loss.

## CONCLUSION

Carbetocin can be considered during cesarean myomectomy for reduction of blood loss.

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