Caesarean Myomectomy As Safe And Feasible Procedure: Prospective Study of 6 Cases.

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Abstract: Myomectomy at the time of caesarean delivery has been discouraged because of the risk of intractable haemorrhage and increased postoperative morbidity. A prospective study was conducted in a tertiary care teaching hospital in Manipur, India which included 6 pregnant women with uterine fibroids who underwent myomectomy during caesarean section. Type of Caesarean section, size and location of the fibroids, blood loss, postoperative morbidity, and neonatal outcome was studied. Total 12 fibroids were removed, with size varying from 5-13 cm. None of the patients required blood transfusion or hysterectomy. Myomectomy added 15-20 minutes to the operating time and there were no significant postoperative complications or prolongation of hospital stay. Neonatal outcome was good in all the patients. The message is that it’s time to recommend caesarean myomectomy with adequate expertise, proper patient selection and effective haemostatic measures, which could also have a positive bearing on future reproductive outcomes.

Keywords: Caesarean, haemorrhage, hysterectomy, myomectomy.

I. Introduction

Myomas are benign monoclonal tumors of smooth muscle cells of the myometrium. Their incidence among women is generally cited as 20 – 25%, but has been shown to be as high as 70 – 80% by sonographic and histologic studies.[1] The incidence of myoma associated with pregnancy is reported as 0.3 – 5%, with rising incidence owing to delayed child bearing age and improved diagnostic techniques.[2-5] Traditional beliefs advocated avoidance of concurrent myomectomy at the time of a Caesarean section has due to fears of potential complications, most importantly intractable haemorrhage leading to hysterectomy and subsequent fertility issues.[6] However, a number of recent studies have favoured Caesarean myomectomy.[3,7–18]

Though myomectomy during caesarean is still condemned, caesarean myomectomy is now favoured in selected cases and experienced hands. The former has concerns such as risk of surgery and anaesthesia in antenatal period, postoperative adhesions, increased likelihood of subsequent caesarean at the time of delivery including a rare risk of myomectomy scar rupture, increased cost and discomfort owing to two surgeries in a short span of time. Myomectomy at the time of caesarean is feasible owing to the increased looseness of the capsule. Moreover postpartum uterine contraction helps in further haemostasis. Concurrent myomectomy during caesarean prevents the added morbidity of a separate procedure for removal of fibroids in future, avoids upper segment uterine section, adhesion formation, allows trial for normal labour in future pregnancy and justifies the cost effectiveness. No significant difference has been observed in the haemoglobin change, incidence of post operative complications and length of hospital stay as compared to other post caesarean patients.[7] Fertility and obstetric outcome after caesarean myomectomy remain unaffected.[19] Above all preservation of an organ without compromise of its function is definitely a superior surgical achievement; hence, Caesarean myomectomy must be considered by experienced obstetricians wherever feasible.

We present a series of 6 cases of pregnancy with myoma, where myomectomy was performed during Caesarean section. A brief discussion of antenatal course, perioperative management and postoperative morbidity of the included cases is presented.

II. Methods

A prospective study of 6 patients with myomas complicating pregnancy who underwent myomectomy at the time of Caesarean section at Regional Institute of Medical Sciences, a tertiary teaching hospital, Imphal, Manipur between May 2015 to March 2016 was performed. Relevant patients’ information pertaining to age, parity, antenatal course, type of Caesarean section, size and location of the fibroids, blood loss, postoperative morbidity, and neonatal outcome was collected. All women included in the study fulfilled the following criteria: 1) pregnancy with fibroid diagnosed by antenatal ultrasound or at surgery; 2) delivery by Caesarean section; 3) no other surgical procedure at Caesarean other than myomectomy, and 4) no pre-existing coagulopathy. Informed consent was obtained from all patients preoperatively.

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Myomectomy was performed using the conventional enucleation technique followed by obliteration the dead space in two to three layers using interrupted 1-0 Vicryl sutures. Myomectomy followed the delivery of the baby, except in a case where anterior wall myoma was encroaching the proposed LSCS incision Fig 1.

Double layered closure of the caesarean incision with 1-0 Vicryl sutures was followed. High dose oxytocin was used intraoperatively and postoperatively in all cases. Some patients required additional uterotonic agents, intramyomal vasopressin injection and haemostatic sutures over the myoma bed. A single patient required bilateral uterine artery ligation for haemostasis. Blood loss was estimated from suction aspiration. Prophylactic antibiotics were administered to all the patients.

<table>
<thead>
<tr>
<th>Age/ Parity</th>
<th>Risk factor/ Comorbidity</th>
<th>No and Location of fibroids</th>
<th>Type Of CS</th>
<th>Size of fibroids removed</th>
<th>GA at CS</th>
<th>Estimate blood loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>34yr / Primi</td>
<td>Gestational hypertension</td>
<td>Left lateral endocervical fibroid, anterior wall submucous fibroid with multiple small fibroids</td>
<td>Elective LSCS.</td>
<td>Left lateral endocervical fibroid 13x8cm, anterior wall submucous fibroid 5x6cm</td>
<td>36 weeks 2 days</td>
<td>1.2 litres</td>
</tr>
<tr>
<td>32 yr / Primi</td>
<td>--</td>
<td>Anterior wall subserosal fibroid</td>
<td>Elective LSCS</td>
<td>5x5 cm</td>
<td>38 weeks 1 day</td>
<td>1 litre</td>
</tr>
<tr>
<td>35 yr/ Primi</td>
<td>--</td>
<td>Left fundolateral subserosal fibroid</td>
<td>Elective LSCS</td>
<td>11x8 cm</td>
<td>37 weeks 6 days</td>
<td>1 litre</td>
</tr>
<tr>
<td>30 yr / Primi</td>
<td>Placenta previa grade IV with APH</td>
<td>Fundal subserosal fibroid</td>
<td>Emergency LSCS</td>
<td>8x7 cm</td>
<td>36 weeks 6 days</td>
<td>1.2 litres</td>
</tr>
<tr>
<td>38 yr / G2P1L1A0</td>
<td>Breech with PROM</td>
<td>Anterior wall intramural fibroid</td>
<td>Emergency LSCS</td>
<td>10x12 cm</td>
<td>36 weeks 3 days</td>
<td>800 ml</td>
</tr>
<tr>
<td>34 yr / G3P0L0A2</td>
<td>IVF pregnancy</td>
<td>Three subserosal fibroids: 2 anterior wall, 1 posterior wall.</td>
<td>Elective LSCS</td>
<td>Anterior subserosal fibroids 3x2 cm and 3x3 cm, posterior subseral fibroid 2x2 cm</td>
<td>38 weeks 3 days</td>
<td>800 ml</td>
</tr>
</tbody>
</table>

**III. Results**

The average age of the women included in the study was 33 years. The age, parity, and associated risk factors of the patients; size and location of the myomas; type of caesarean and intra-operative findings are summarised in Table 1. Themysomsize varied from 5-13 cm. Regarding intra-operative blood loss, 2 patients lost 800 ml, 2 patients lost around 1 litre and remaining 2 patients lost around 1.2 litres of blood, counting to an average of 1 litre blood loss. Intra-myomalous vasopressin injection was used in one patient with multiple fibroids, largest been 13x 8 cm endocervical fibroid. A single patient required bilateral uterine artery ligation. None of the patients required blood transfusion or hysterectomy. Neonatal outcome was good in all the patients. The mean
gestational age at delivery was 37.33 weeks (range 36–39 weeks). The 5 minute Apgar score was 9–10 in all the newborns with birth weights ranging from 2800 – 3250 grams.

**IV. Discussion**

One in ten of the women with pregnancy with myomawill have complications during pregnancy that are related to the myoma. A great majority of myomas associated with pregnancy remain asymptomatic and do not require treatment, with about 22–32% showing increased growth.[6] Larger fibroids (>5cm) are more likely to grow during pregnancy and can cause miscarriages, preterm labour, , malpresentations, pressure symptoms, pain due to red degeneration, preterm premature rupture of membranes, obstructed labour, retained placenta, postpartum haemorrhage and uterine torsion.[6,20,21] Katz et al. found that 10–30% of women with myomas associated with pregnancy had complications as listed above.[21] Caesarean section rates in women with myomas are higher, up to 73%, mainly due to obstructed labour and malpresentations.[4]

The orthodox view of one of the pioneers of myomectomy in non-pregnant women, Bonney, is reflected in his writings: “It is tempting for the adventurous and sympathetic surgeon to condense the operation of lower segment Caesarean section and myomectomy into one undertaking and save his patient the ordeal of a second admission to hospital. This kindly but misguided policy we heartily deprecate.” However, his pupils, Hawkins and Stallworthy, did advocate Caesarean myomectomy in selected cases, as in the incidence of anterior lower segment myomas on the proposed incision line.[22]

Exacoustos and Rosetti reported that in their series of 9 cases of Caesarean myomectomy, three were complicated by severe haemorrhage necessitating hysterectomy; hence, they recommended caution while making the decision to perform this procedure.[23] Some authors report a higher incidence of postpartum haemorrhage and puerperal sepsis if the fibroid is not removed at Caesarean section.[4,5] In addition, the uterus in the immediate postpartum phase is better adapted physiologically to control haemorrhage than at any other stage in a woman’s life; hence, it seems logical to perform Caesarean myomectomy.

The management of fibroids encountered at Caesarean section remains a therapeutic dilemma. Myomectomy during Caesarean section has traditionally been discouraged due to the risk of uncontrollable haemorrhage, unless the myoma is pedunculated.[6] Recent studies have described techniques to minimise blood loss at Caesarean myomectomy including uterine tourniquet, bilateral uterine artery ligation, and electrocautery.[7] Several authors have now shown that in selected patients and in experienced hands, myomectomy at the time of caesarean section is a safe and effective procedure.[3,7,18]

In our study series, blood loss was less than 1.2 L of blood and there was no significant postoperative morbidity. Despite the majority of the patients having large myomas, no hysterectomy was required in any patient. The diagnosis fibroids was confirmed by the pathology reports. Myomectomy added 15-20 minutes to the operating time and there was significant postoperative complications or prolongation of hospital stay. None of the patients required blood transfusion or had postoperative sepsis. The limitation of this study is the small sample size.

**V. Conclusion**

Caesarean myomectomy is not as dangerous as it has been thought of for generations. The various measures that can be undertaken to minimise blood loss during caesarean myomectomy are electrocuretory, uterotonic agents, tourniquet or bilateral uterine arterial ligation, pericervical tourniquet application, intraoperative vasopressin, stepwise devascularisation.

Patient selection is crucial in Caesarean myomectomy. Myomectomy for myomas approaching the fundus and ostia of the tubes should be avoided as these may lead to adhesions causing future fertility problems. Intramural myomectomy demands caution. Accessible subserosal or pedunculated fibroids and lower uterine segment fibroids obstructing delivery of the baby can be safely removed by experienced surgeons.

The message is that its time to recommend caesarean myomectomy with adequate expertise, proper patient selection and effective haemostatic measures, which could also have a positive bearing on future reproductive outcomes.

**References**


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