Uterine Compression Suture Technique in the Management of Severe Postpartum Haemorrhage as an Alternative to Hysterectomy

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INTRODUCTION

A massive, uncontrolled haemorrhage after childbirth is the leading cause of maternal mortality and morbidity. Uterine atony is the most common cause (28-90%) of primary postpartum haemorrhage [1, 2]. To avoid hysterectomy and stop haemorrhage the obstetricians should undertake several steps [3, 4]. These steps can be performed by a skilful and experienced obstetrician, who can bring the decision within seconds when faced with such a dramatic situation. If the haemorrhage occurs during spontaneous labour it takes some time to diagnose the atonic uterus. Immediately the obstetrician should attempt to stop bleeding by applying conservative methods in order to stimulate the construction of the uterus. If conservative methods fail (massage, tamponade, and application of oxytocic agents) the abdomen should be opened and the ligation of the uterine artery or even hypogastric artery must be done. If all these steps fail the last solution is hysterectomy. Atony during the caesarean section is more obvious. Blood loss is smaller and the obstetrician immediately applies conservative methods (massage, application of oxytocic agents, ligation of uterine artery).

In order to avoid hysterectomy and preserved fertility, five years ago we started to apply compression uterine suture technique. This technique is only solution when all other haemostatic methods fail.

OBJECTIVE

The aim of this paper is to demonstrate the technique of applying compressive uterine suture after delivery to stop excessive bleeding, and to present results obtained by this technique.

METHODS

After we have done everything to stop the bleeding and the uterus is still without contraction we apply four compression sutures. The first one we start at the back wall of the uterus from the right sacrouterine ligament, sowing posterior wall of uterus laterally up to its cornu. We skip the cornu and continue the same suture on the right front lateral wall (Scheme 1). When we reach the isthmus of uterus at the level of sacrouterine ligament, we sow through the uterine wall backwards medially of uterine artery, being careful not to pass through uterine cavity. With the needle we come at the same spot from which we began. When we tie the knot, right side of the uterus shrinks. The second suture is done symmetrically on the left side of uterus. After these two sutures only the central part of uterus is still stretched. Two more sutures are applied to press the central part of uterus and completely stop bleeding. The third suture begins also from the right sacrouterine ligament one centimetre medially of the first one. From that spot suture passes on the back wall of the uterus, passes medially of uterine artery, and sows laterally to the external os. The fourth suture begins also from the right sacrouterine ligament one centimetre medially of the first suture, sows laterally to the external os, passes medially of uterine artery, and passes on the back wall of the uterus. After tying the knot the central part of uterus shrinks. All patients had normal postpartum period and normal involution of the uterus.

RESULTS

Compressive suture technique was used by the authors eight times, seven of which during caesarean section and one after spontaneous delivery. All patients had normal postpartum period and normal involution of the uterus.

CONCLUSION

Although this surgery requires a skilful and experienced obstetrician, the authors find it rather easy to perform and it is suggested to be applied in all cases of uterine atony when excessive bleeding cannot be stopped by other any other method except hysterectomy. This surgical procedure saves the uterus and facilitates quick and easy patient’s recovery.

Keywords: uterine atony; compressive suture; postpartum hysterectomy
DISCUSSION

Heavy haemorrhage after delivery leads to hysterectomy in order to save the life of the mother [2]. This is a high risk surgery for the patient, and there is a loss of fertility. All authors say that the main reason for heavy haemorrhage after delivery is atony [2, 5-8]. As situation is very dramatic and serious and the life of the patient is in danger it is necessary that the most experienced obstetrician performs the surgery. Putting the sutures is not complicated, but it demands a skilful and experienced surgeon [1]. Using this technique the bleeding is stopped at high rate [6, 7]. In our group of patients one became pregnant, but the pregnancy has finished by artificial abortion. As some obstetri-

RESULTS

From 2004 to 2008, there were 34,229 deliveries. We performed compressive suture eight times, seven during caesarean section and one after spontaneous delivery. All patients had normal postpartum period, and normal involution of uterus. The involution was controlled by ultrasound (Figure 3).
cians use compression suture when atony occurs, placenta accrete is becoming a leading cause of emergency hysterectomy postpartum [2].

There are different ways of compression suture techniques. It varies from author to author, from three transversal sutures [7] to different number of longitudinal sutures, but all techniques have the same goal, the uterus with compressive sutures that is not bleeding any more. Some authors said that they succeeded to stop bleeding, in atonic uterus, only by suturing uterine artery [5], but we had such experience in small rate.

With this procedure the uterus is saved as well as menstrual function and fertility [8].

Many authors point out that atony occurs during caesarean section [5-8]. That happened with our patients. Although the caesarean section rate is increasing lately, it is not the caesarean section itself that leads to atony, but the causes that lead to caesarean section. In further clinical investigations the risk factors that lead to caesarean section and atony should be defined. By preventing risk factors the caesarean section rate should decrease as well as the atony and the number of this type of surgery.

**CONCLUSION**

Although this surgery needs skilful and experienced obstetrician we find it rather easy to perform and it should be applied in each case of uterus with atony when excessive bleeding cannot be stopped otherwise than performing hysterectomy. With this surgical procedure we save the uterus and the patient is recovering quickly and easily.

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