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Role of vacuum extraction of fetal head in reducing the postpartum hemorrhage during lower segment caesarean section

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Abstract
Aims and objectives: To analyse the role of vacuum extraction of fetal head in reduction of Postpartum haemorrhage during Lower segment caesarean section.
Materials and methods: Fifty cases of full term parturient women were enrolled in the study group where vacuum was applied for extraction of fetal head during LSCS and the differences in preoperative and postoperative Hb was compared with fifty full term parturient women where fetal head extraction was done by manual method.
Results: Two cases of mild atonic PPH was noted in the vacuum group which is not significant. There was significant reduction in the differences of pre and postoperative Hb levels in the vacuum group.
Conclusion: Application of vacuum during lower segment caesarean section reduces PPH significantly.

Keywords: LSCS, PPH, vacuum extraction

Introduction

Postpartum haemorrhage is generally defined as blood loss greater than or equal to 500ml within 24 hours after birth, or change of 10% in the haematocrit value following the birth of baby or any amount of blood loss making the patient hemodynamically unstable. Severe PPH is blood loss greater than or equal to 1000ml within 24 hours.

Types: Primary PPH: Occurs in the first 24 hours following delivery.

Secondary PPH: Occurs between 24 hours and12 weeks postnatally.

The most common cause of PPH is uterine atony, i.e. failure of the uterus to contract adequately after birth responsible for 70–90% of all PPH cases. Postpartum haemostasis is based on powerful and prolonged hormonally mediated contractions that decrease the blood flow to the placental bed. The major risk factors for PPH include over-distended uterus (i.e. macrosomia, multiple gestations, hydramnios, etc.), prolonged or precipitous labor and chorioamnionitis. Nevertheless, atonic PPH occurs in more women without known risk factors than those with identifiable risk factors. Additional causes of PPH include genital tract trauma, retained placental tissue; uterus inversion, or ruptured uterus. The different causes of PPH are Tone (uterine atony), Trauma (including genital tract trauma, uterine rupture and uterine inversion, causing 20% of all cases).
Specific for PPH after caesarean section is:

- The severity of the bleeding - normal blood loss after caesarean birth is higher than after natural birth.
- Bleeding added to the pathology that indicated caesarean section like big baby, macrosomia, multiple gestations with malpresentation)
- Favouring uterine atony due to lack of contraction of the myometrium during the refractory period.

The severity of intra-operative and post caesarean bleeding is due to its association to anaesthetic risk, which is more important in caesarean, as well as to the associated pathology that indicated the caesarean section in the first place.
Myometrial fiber hyperdistension was determinant or adjuvant for the occurrence of the bleeding accident in cases of bleeding after caesarean section.

Aims and objectives

To analyse the role of vacuum extraction fetal head in reduction of Postpartum haemorrhage during Lower segment caesarean section.

Materials and methods

Fifty parturient women were enrolled in this study group who were full term and in whom vacuum was applied to extract the fetal head during lower segment caesarean section. The outcome of the study was compared with fifty full term parturient women in whom fetal head was extracted by manual method. This study was conducted at RIMS raichur. For all the cases detailed history was taken and clinical examination was done. Previous obstetric records and ultrasound reports were reviewed.

Inclusion criteria

- Primigravida
- Elective LSCS
- Singleton pregnancy with Vertex presentation
- Post-dated pregnancy

The exclusion criteria

- Twin pregnancy
- Previous 2 LSCS
- Malformed foetus
- Congenitally malformed uterus
- Malpresentations
- Major degree placenta previa
- Preterm
- Obstructed labour

For all the cases baseline investigations like haemoglobin, blood grouping, Rh typing, HIV, HBsAg were done. At the time of discharge repeat haemoglobin were done for all women. The intraoperative techniques used for LSCS were same in both study and control groups except for the application of vacuum in the study group. All the newborns were attended by neonatologists and followed up for seven days. All the postoperative patients were given similar analgesia and followed up for seven days. The blood loss was assessed by preoperative and postoperative haemoglobin levels.

Results

All the women belonged to reproductive age group. The surgical techniques of caesarean section were same in both groups except for the application of vacuum for fetal head extraction in vacuum group. All the women belonged to reproductive age group.

Table 1: Showing the differences in the haemoglobin levels of the study:

	Control	Vacuum	P value
Differences in the pre and post op Hb levels(gm/dl)	1.87	1.03	0.011

Table 2: showing atonic PPH in both the groups:

	PPH		Total
	Control	vacuum	
No	50	48	98
	100%	96%	98%
Yes	0	2	2
	0.00%	4%	2%
Total	50	50	100
	100%	100%	100%

P value is 0.153

In our study, the differences in the preoperative and postoperative haemoglobin levels were less in the vacuum group compared to control group with the p value 0.011 which is very significant.

Table 2 shows that there was mild atonic PPH in the vacuum group compared to control group with the p value of 0.153 which is not significant.

Discussion

Postpartum hemorrhage (PPH) is a life-threatening event involving severe bleeding during and after the third stage of labour. PPH is one of the most common obstetrical complications, affecting up to 18% of deliveries. It accounts for 35–55% of peripartum maternal deaths worldwide. The most common cause of PPH is uterine atony, i.e. failure of the uterus to contract adequately after birth, responsible for majority of cases.

In the present study, vacuum was applied to 50 cases for extraction of fetal head during lower segment caesarean section and the preoperative and postoperative haemoglobin levels were noted. There is significant reduction in the blood loss in the vacuum group compared to control group. Mild atonic postpartum hemorrhage was noted in the two cases of vacuum group which is not significant. In the study conducted by Priyanka HK *et al*. [11], where Vectis was used to extract the fetal head during lower segment caesarean section, they found that there was no significant blood loss noted during instrumental extraction. In the study conducted by Ingole SJ *et al*. [12] where forceps was used to extract the fetal head during lower segment caesarean section, they also found that there was decrease in the differences in the preoperative and postoperative haemoglobin levels and there was significant reduction in the blood loss noted in the forceps group. The results of above studies are comparable to the present study. Thus the use of vacuum during LSCS decreases the incidence of PPH. Though the study size is small, it highlights the role of vacuum extraction of fetal head in reducing the postpartum haemorrhage during lower segment caesarean section.

Conclusion

The importance of PPH as one of the major causes of maternal morbidity and mortality, and the increased risk of recurrence, possess the need of reducing PPH as one of the main goals of modern obstetrics. This study strengthens the application of vacuum for fetal head extraction during Lower segment caesarean section which reduces postpartum haemorrhage significantly and improves the postoperative recovery. It reduces the need for blood transfusion postoperatively.

References

1. Johanson RB, Heycock E, Carter J. Maternal and child health after assisted vaginal delivery: five year follow up of a randomized controlled study comparing forceps and ventouse. Br J Obstet Gynecol. 1999; 106(6):544-49.
2. Johanson R, Menon V. Soft versus rigid vacuum extractor cups for assisted vaginal delivery. Cochrane Database Syst Rev. 2000; (2):CD000446 (Medline).
3. Hankins GDV, Clark SL, Cunningham FG, Gilstrap LC. Operative obstetrics, Norwalk: Appleton and Lange, 1995, 318.
4. Simonson C, Barlow P, Dehennin N, Sphel M, Toppetn V, Murillo D *et al*. Neonatal complications of vacuum- assisted delivery. Obstet Gynecol. 2007; 109:626-33.
5. Clark SL, Vines VL, Belfort MA. Fetal injury associated

with routine vacuum use during cesarean delivery. Am J obstet Gynecol, 2008.
6. Lees MH, Hill JD, Ochsner 3rd AJ *et al*. Maternal placental and myometrial blood flow of the rhesus monkey during uterine contractions. Am J Obstet Gynecol. 1971; 110:68-81.
7. Khan RU, El-Refaey H. A textbook of postpartum hemorrhage: a comprehensive guide to evaluation, management and surgical intervention. India: FOGSI, 2006.
8. Prendiville WJ, Elbourne D, McDonald S. Active versus expectant management in the third stage of labour. Cochrane Database Syst Rev. 2009; 3:CD000007.
9. Mathai M, Gumezoglu AM, Hill S. WHO recommendations for the prevention of postpartum haemorrhage. Geneva, Switzerland: WHO, 2007.
10. Priyanka HK *et al*. comparative study of Vectis versus manual method for extraction of fetal head during lower segment caesarean section. Int J Reprod Contracept Obstet Gynecol, 2017.
11. Ingole SJ *et al*. Comparative study to identify the safety, effectiveness and ease of obstetric forceps for delivery of floating head in caesarean section. Int J Reprod Contracept Obstet Gynecol, 2018.