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Case Report

Cervical lacerations: A case series

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ABSTRACT

Cervical laceration (CL) after vaginal delivery is one of the uncommon side effects with significant morbidity if undetected and unattended to promptly. This is however one of the common causes for postpartum haemorrhage. There are several documented risk factors for CL such as previous interventions on the cervix, induction of labour, use of Prostaglandins for induction, precipitate labour, operative vaginal deliveries and birth weight of more than 3500gm.

In this article we have described a series of eleven women who were detected to have CL following vaginal delivery. One of whom had delivery of the baby through a bucket handle cervical tear with a non-dilated cervical os. Almost all of them needed multiple blood and product transfusions in view of postpartum haemorrhage with one of them developing acute kidney injury subsequently.

This necessitates the need for prompt identification of CL and its needed intervention.

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1. Introduction

Cervical laceration (CL) after vaginal delivery is one of the uncommon side effects with significant morbidity if undetected and unattended to promptly. The incidence of CL after vaginal deliveries ranges from 0.2% to 1.2%.^{1,2} This is one of the common causes for postpartum haemorrhage (PPH). CL can range from superficial to deep with extensions to the vagina or the lower segment of the uterus. Occasionally, there can be complete avulsion of the cervix from the uterus leading to a bucket handle tear.

2. Materials and Methods

From January, 2018 to April, 2022 there were 38549 vaginal deliveries in our tertiary care centre. Of them eleven women were identified to have CL needing surgical intervention. In this article we are describing a summary of these

eleven women who have had CL detected following vaginal delivery with detailed presentation of one of them who had a bucket handle tear of the posterior lip of cervix.

3. Case Presentation

Mrs. S a 26-year-old Primigravida, conceived with IVF after evaluation for 4 years of infertility. At 36 weeks and 5 days of gestation with risk factors of being gestational diabetes on medication and hypothyroidism. She had presented with prelabour rupture of membranes. Induction of labour was done using 2 doses of vaginal insertion of 25ug Misoprostol. The cervix was quite unfavourable at induction with a Bishop score of 2/13. Six hours from the second dose of misoprostol augmentation of labour was done when the Bishop score was 3/13. Labour progressed rapidly and within 6 hours of augmentation of labour she delivered vaginally a 2.8kg baby. Following delivery, she had PPH and exploration of the cervix revealed a five cm long CL along

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the posterior lip of cervix with the external cervical os being only one cm dilated. (Figure 1) The tear was sutured under anaesthesia. (Figure 2) She had a significant blood loss of about a litre needing blood transfusion.

The following tabular columns are a summary of eleven such patients who have had cervical tears following vaginal delivery. (Tables 1, 2 and 3)

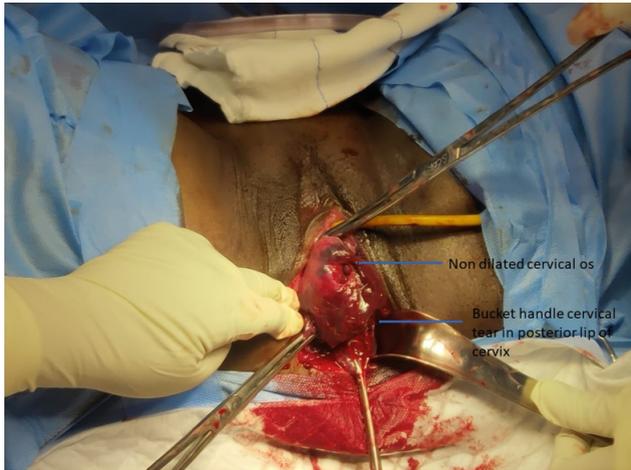


Figure 1: Posterior cervical tear with non dilated cervical os



Figure 2: Sutured posterior cervical tear

Table 1: Patient characteristics

Characteristics	Value
Age	20-30 (Mean 24.8 years)
Parity	
Primigravida	6 (55%)
Multigravida	5 (45%)
Gestation age	
Term (≥ 37 weeks gestation)	10 (91%)
Preterm ($\leq 36 + 6$ weeks gestation)	1 (9%)

Table 2: Labour characteristics

Characteristics	Value
Labour—*	
Spontaneous	5 (45%)
Induced	4 (36%)
Augmentation of labour*	9 (82%)
Mode of delivery	
Vaginal delivery	7 (64%)
Low forceps delivery	3(27%)
Vacuum delivery	1(9%)
Weight of the baby	
<3500gm	8 (73%)
≥ 3500 gm	2 (18%)

* information unavailable for 2 patients delivered elsewhere

Table 3: Details regarding cervical tear

Location of tear	
Anterior lip	4 (36%)
Posterior lip	7 (64%)
Length of tear *	
≤ 5 cm	4 (44%)
>5 cm	5 (56%)
Total blood loss *	
< 1000 ml	2 (22%)
≥ 1000 ml	7 (78%)
Associated DIC ‡	2 (20%) †
Need for ICU §care	3 (30%)
Duration of hospital stay	
< 5 days	5 (45%)
≥ 5 days	6 (55%)

* information not available for 2 patients delivered elsewhere and referred to our hospital for further care

†One patient developed acute kidney injury

‡DIC - disseminated intravascular coagulopathy

§ICU – intensive care unit

4. Discussion

Cervical laceration although not very common, is known to cause PPH. Incidence of CL among primigravida was 1% while among multigravida was 0.5% according to study by Landy in 2011.³ The known precipitating factors for CL in literature being previous interventions on the cervix 6-14% (polypectomy, LEEP, cerclage), induction of labour (threefold increased risk), use of Prostaglandins for induction of labour, precipitate labour, operative vaginal deliveries and birth weight > 3500gms.¹⁻⁵

However, in our experience of the known risk factors, the most common association were with induction of labour and operative vaginal delivery. In recent years the rate of induction of labour have exponentially increased.⁶ In literature induction of labour has been associated with increased risk of PPH, precipitated labour, need for operative delivery and uterine rupture.⁷ Instrumental delivery – both vacuum and forceps have been associated with increased maternal soft tissue injury including CL.⁸ Similarly precipitate labour, where the cervix rapidly dilates to accommodate the presenting part has also been enlisted as one of the reasons for CL.⁹ Hence, CL has to be anticipated and actively looked for in patients who undergo precipitate labour or have a rapid progression of labour or patients undergoing operative vaginal delivery and have associated increased bleeding.

Although the occurrence of cervical tear is rare, due to its associated increase in morbidity in terms of increased blood loss and the burden of increased need for blood and product transfusion, the occasional need for ICU care this complication following delivery has to be kept in mind and actively sought for especially in patients who have PPH.

5. Conclusion

Meticulous inspection of the cervix is needed in women who have increased vaginal bleeding after precipitate labour, induction of labour or operative vaginal delivery.

1. Cervical lacerations although rare can lead to traumatic postpartum haemorrhage.
2. Prompt identification and intervention is needed.
3. Be aware of its risk factors such as precipitate labour, previous cervical procedures, induction of labour with prostaglandins and birth weight > 3500gm.

6. Source of Funding

None.

7. Conflicts of Interest

The authors declare that they have no competing interests.

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