

Management of Umbilical Cord Prolapse in Queen Mary Hospital, Hong Kong



Ka Wai Kitty Ma¹, Holly Victoria Lewis², Mimi Tin Yan Seto¹, Yin Kwan Mok¹, Ka Wang Cheung², Pui Wah Hui¹

¹Department of Obstetrics and Gynaecology, Queen Mary Hospital, Hong Kong

²Department of Obstetrics and Gynaecology, University of Hong Kong, Hong Kong



HKU Med
LKS Faculty of Medicine
Department of Obstetrics
& Gynaecology
香港大學婦產科學系

Introduction

Cord prolapse complicates 0.1-0.4%¹⁻⁴ of all deliveries and is associated with birth asphyxia and perinatal death due to cord compression and umbilical arterial vasospasm¹. Prompt management is recognised to improve neonatal outcomes. Our objective was to audit compliance with RCOG Umbilical Cord Prolapse Guideline⁵.

Methodology

All women at Queen Mary Hospital, a university affiliated hospital in Hong Kong, presenting with umbilical cord prolapse between Jan 2016 and Dec 2021 were included into the study. Data was retrieved from the Electronic Patient Records (EPR) for assessing the performance in the management for minimising cord compression when delay in delivery, application of continuous fetal monitoring (CTG), attendance of paediatrician at delivery, collection of paired umbilical cord gases at delivery and conduction of debriefing following delivery.

Results

The incidence of umbilical cord prolapse in our unit was 0.07% (14/20,470). We identified 14 umbilical cord prolapses, of these cases; 8 (57%) were nulliparous and 6 (43%) were multiparous with 7 (50%) presenting at term and 7 (50%) <37 weeks.

Background demographics for our cohort are shown in figure 1.

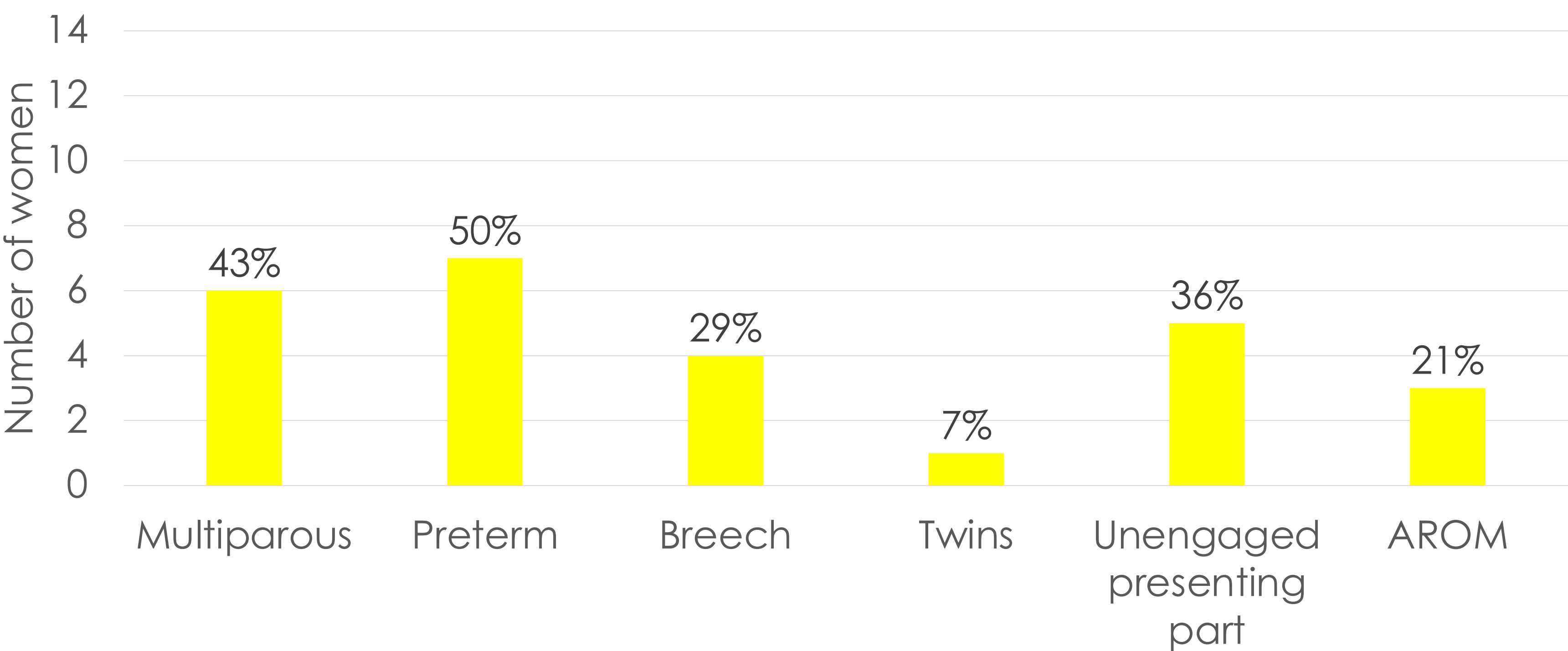


Figure 1: Women with risk factors for cord prolapse in our cohort

Delivery

CTG monitoring was considered feasible and performed in 73% (8/11) of cases with gestation over 27 weeks. For the remaining 3 cases; 2 cases had category 1 emergency Caesarean section within 15 minutes and the other case had a vaginal breech delivery in 3 minutes.

Cord prolapse occurred in 11/14 cases (79%) when the cervix was not fully dilated. The average time between decision and delivery by emergency Caesarean section was 15.5 min.

10 patients had emergency Caesarean section. The remaining patient was at 23 weeks gestation and had expectant management for peri-viability. For those 3 women in the second stage, the average diagnosis to delivery time for vaginal delivery was 7.7 min.

All patients whose delivery was not imminent received initial measures to avoid cord compression, as outlined in figure 2.

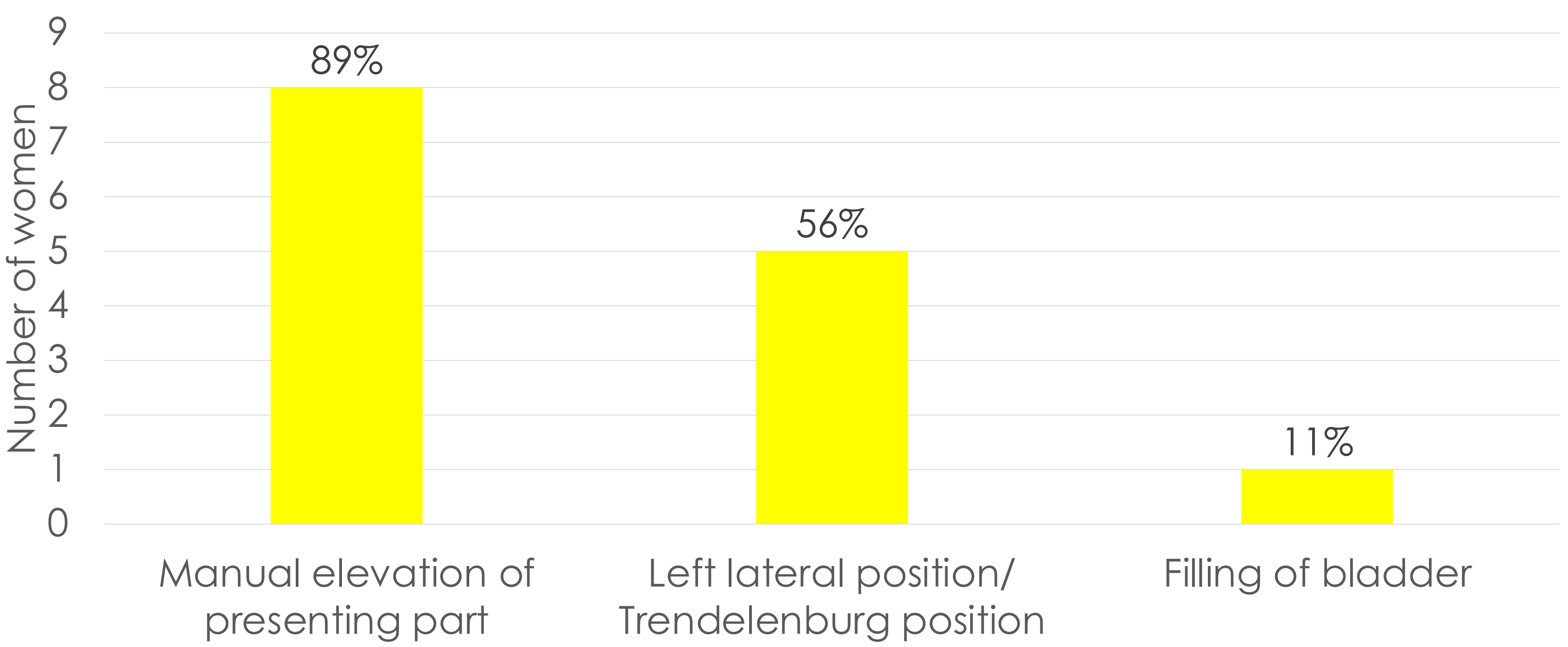


Figure 2: Methods used to avoid cord compression

Fetal outcome

Paediatricians attended at 13/14 (93%) deliveries. Paired cord blood samples were documented in 12/15 (92%) cases with pH< 7.25 in 6/12 (50%).

Clinical governance

All patients were debriefed following delivery.

Conclusion

Overall our management of umbilical cord prolapse met the optimal standards. The incidence of umbilical cord prolapse was low in our unit and regular simulation training sessions would be arranged to maintain skills. Long term outcomes of babies born with cord prolapse could be looked into in the future.

References

1. Gibbons C, et al. BJOG. 2014 Dec;121(13):1705-8.
2. Gabbay-Benziv R, et al. J Matern Fetal Neonatal Med. 2014 Jan;27(1):14-7.
3. Kahana B, et al. Int J Gynaecol Obstet. 2004 Feb;84(2):127-32.
4. Woo JS, et al. J Obstet Gynaecol. 1983 Aug;23(3):142-5.
5. Royal College of Obstetricians and Gynaecologists (2014). Umbilical cord prolapse (Green-top Guideline No. 50).