

IMPLEMENTING A GRAB BOX TO MANAGE UTERINE INVERSION IN THE LABOUR WARD

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INTRODUCTION

Uterine inversion is a rare but life-threatening obstetric emergency. The purpose of this quality improvement project was to improve knowledge of the management of uterine inversion in a single maternity hospital by creating a grab box – A tool containing everything needed to manage uterine inversion in the labour ward up until surgical escalation. Since silastic ventouse cups are no longer in use within our unit, the box includes a novel method designed to achieve hydrostatic replacement.

METHODS

A survey was developed to determine the level of knowledge among clinicians, working in a single maternity hospital, of uterine inversion management. Utilising MOET guidance (1), a box was created to standardise and simplify the approach to managing uterine inversion. Within the box there is:

- an algorithm for managing uterine inversion (figure 1)
- equipment to initiate hydrostatic replacement
- a step-by-step guide to set up this equipment (figure 2)
- an equipment list and where this can be located (for equipment not within the box e.g. warmed fluids and drugs)
- diagrams for the surgical management of uterine inversion (figure 3)

A novel method was designed for achieving hydrostatic replacement using equipment available in the maternity hospital. This method delivers warmed saline under high pressure using a delivery system composed of a urinary catheter and a blood-giving set which connects the pressurised saline to an anaesthetic face mask, forming a seal around the vulva to maintain the hydrostatic pressure required to replace the uterus (figure 4)

UTERINE INVERSION ALGORITHM

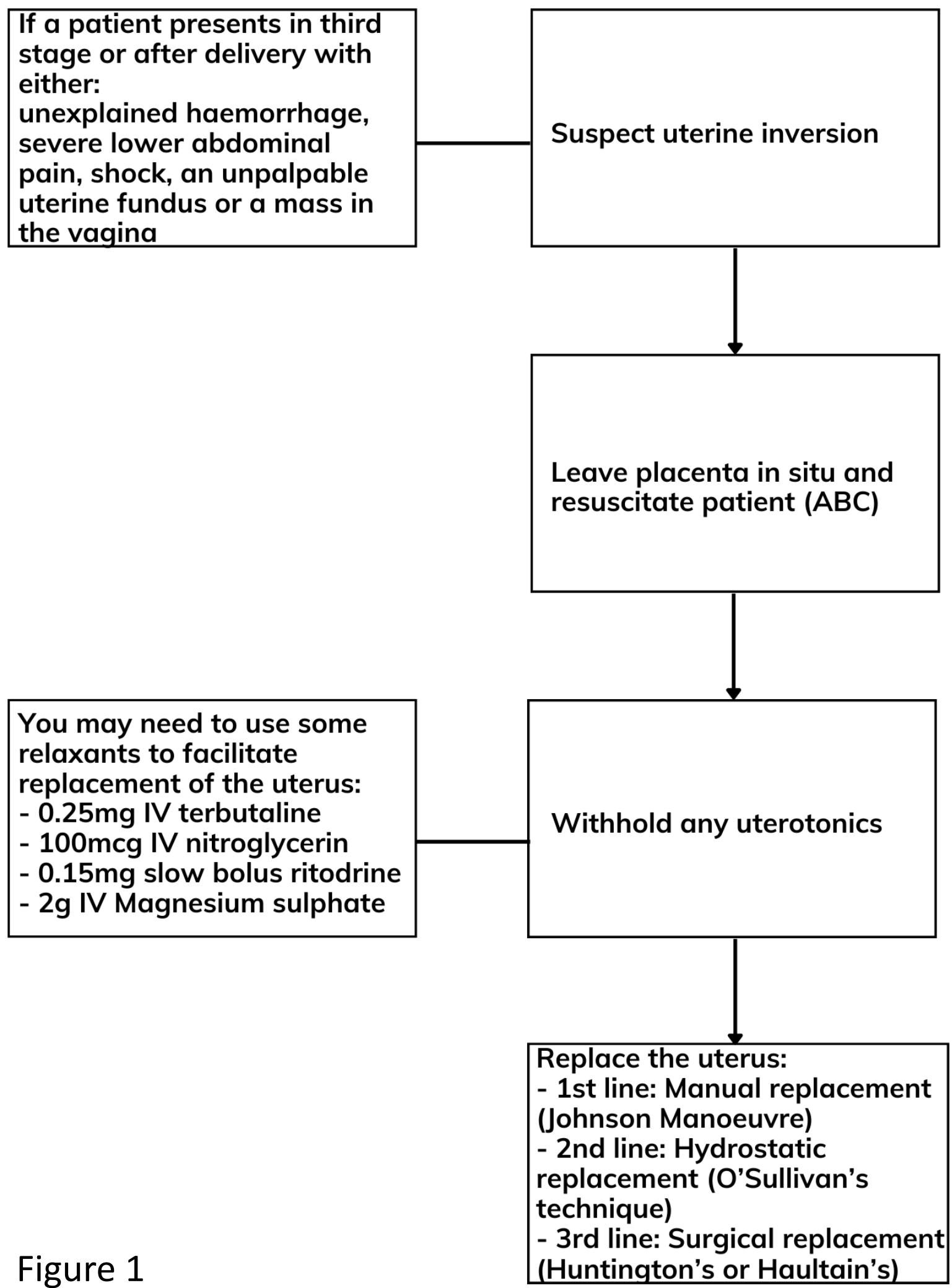
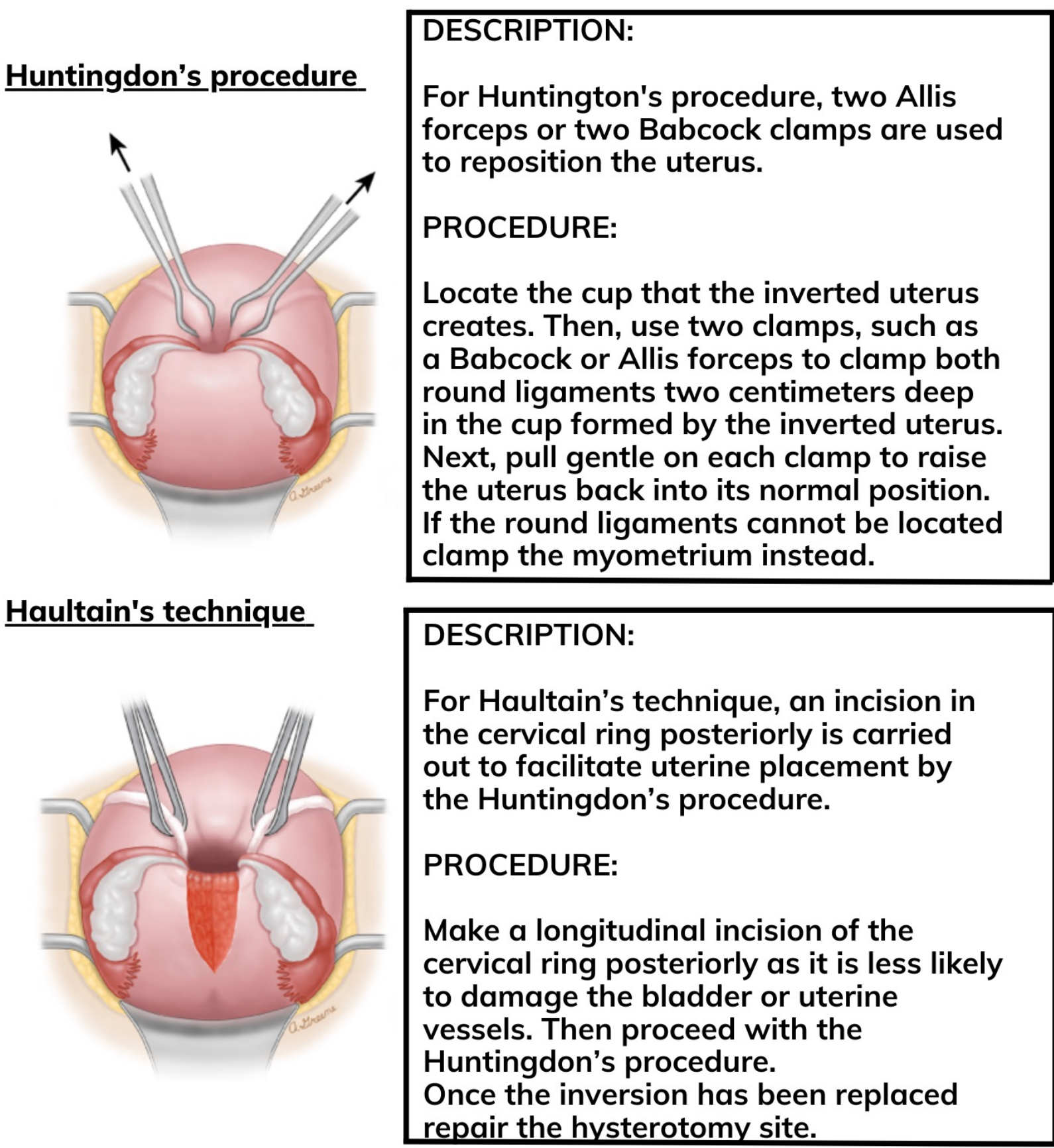


Figure 1

THE SURGICAL MANAGEMENT OF UTERINE INVERSION



Once uterus replacement has been accomplished, administer oxytocin to allow uterine contraction and keep your hand within the uterine cavity until a contraction happens.

Figure 3

SETTING UP THE EQUIPMENT FOR HYDROSTATIC REPLACEMENT

- 1 Attach the catheter mount to the anaesthetic face mask (Image 1)
- 2 Insert the catheter into the open end of the catheter mount until it touches the bottom of the catheter mount (Image 2)
- 3 Use the prefilled catheter syringe to inflate the catheter balloon and gently pull on the catheter to ensure that its firmly secure (Image 3)
- 4 Insert the full length of the luer lock at the end of the blood transfusion tube into the urine drainage port of the catheter forming a tight seal (Image 4)
- 5 Connect the blood transfusion set spike into the 1l bag of warm saline (Image 5)

Figure 2

CARRYING OUT HYDROSTATIC REPLACEMENT O'SULLIVANS TECHNIQUE

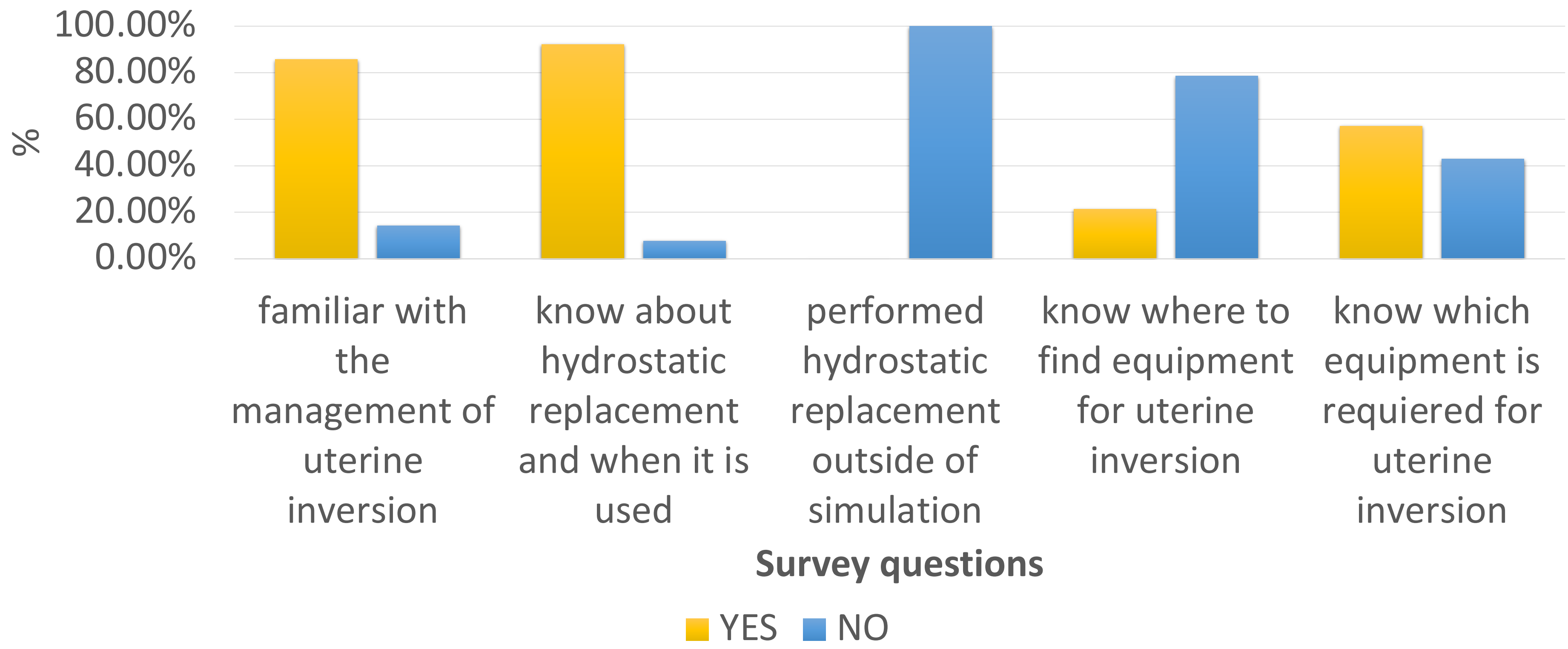
- 1 Exclude uterine rupture before proceeding with hydrostatic replacement.
- 2 Position the patient in the modified lithotomy position and make a tight seal with the face mask over the vulva.
- 3 Raise the IV stand to a height of around 2 meters from the patient.
- 4 Apply pressure to the saline bag either manually or with a pressure bag forcing the saline through the face mask over the vagina.
- 5 Hold this pressure for 10-15 minutes. This should allow the vagina to distend and the cervix to relax allowing the uterus to return to its correct position.

Figure 4

RESULTS

- 85.7% of respondents were familiar with the management of uterine inversion.
- 92.2% knew about hydrostatic replacement and when it should be utilised. However, they had never performed it outside of simulation.
- 57.1% knew the equipment required but only 21.4% knew where to find it.
- Variable knowledge of the surgical procedures

Survey results for the management of uterine inversion within a single maternity unit



CONCLUSION

The study highlighted a lack of knowledge within the department on what equipment is needed to manage uterine inversion and the location of this equipment, which indicates the potential utility of having a grab box in the department with clear instructions and the necessary tools to manage the emergency.

The next cycle will involve developing a guideline for uterine inversion, departmental education on the management of uterine inversion and subsequent surveying to assess competency in managing uterine inversion after these interventions.

REFERENCES

1. Paterson-Brown S, Howell C. In: Uterine Inversion. *Managing Obstetric Emergencies and Trauma. The Moet Course Manual*. 3rd Edition. Cambridge: Cambridge University Press; 2016 . Pg 239- 244.