



Northern Health

# Is Carbetocin as effective as Oxytocin in preventing PPH in the third stage of labour in the emergency caesarean section?



Northern Health

Gina Ibrahim

Arzoo Khalid

Northern Health Hospital

[gina.m.labib@hotmail.com](mailto:gina.m.labib@hotmail.com)

## Introduction

Postpartum haemorrhage is the primary cause of one-quarter of all maternal deaths worldwide, hence WHO recommends active management of the third stage of labour.

Recently Carbetocin has been used instead of Oxytocin as it is long-acting and maintains uterine tone for a longer time.

Hunter et al. (Canada 1992) showed that a single IV injection of 100mcg of Carbetocin could produce uterine contractions for 60 minutes.

Dansereau et al. (British Columbia 1999) showed that a single dose of Carbetocin is more effective than IV Oxytocin infusion in elective caesarean section.

However, conflicting data exist for the use of Carbetocin in emergency caesarean sections for the third stage of labour.

This audit was conducted to demonstrate if Carbetocin is as effective as Oxytocin in the prevention of PPH in emergency caesarean sections.

## Results

One hundred fifty-five patients were selected.

Out of 155 patients, 65 patients received Carbetocin, and 90 patients received Oxytocin.

There was no significant statistical difference between Carbetocin and Oxytocin in the use of extra-uterotonics; 72.0% and 67.6%, respectively ( $p = 0.710$ ).

Also, there was no statistical difference in the rate of PPH with carbetocin and Oxytocin, 38.5%-41.1%, respectively ( $p = 0.740$ ).

Although there was no statistical difference in the number of severe PPH (more than 1500 ml as per WHO); carbetocin had 6 cases (9.2%) while Oxytocin had 3 cases (3.3%) with  $p = 0.121$ , which is double the number of cases in the carbetocin group.

## Conclusion

Carbetocin and Oxytocin have similar requirements for additional uterotonics.

Carbetocin use may be associated with more severe PPH (more than 1500 ml), which is clinically significant.

A randomised double-blinded study with a larger sample size would be recommended for the safer use of carbetocin in emergency caesarean sections for the completion of the third stage of labour.

## Method

We conducted an observational retrospective audit.

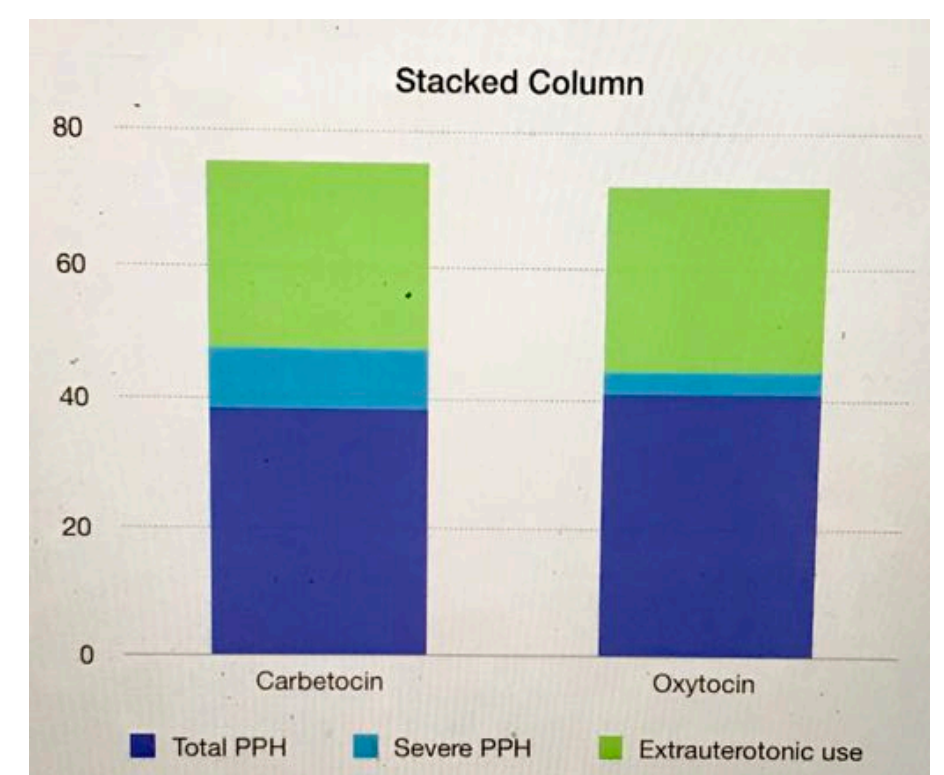
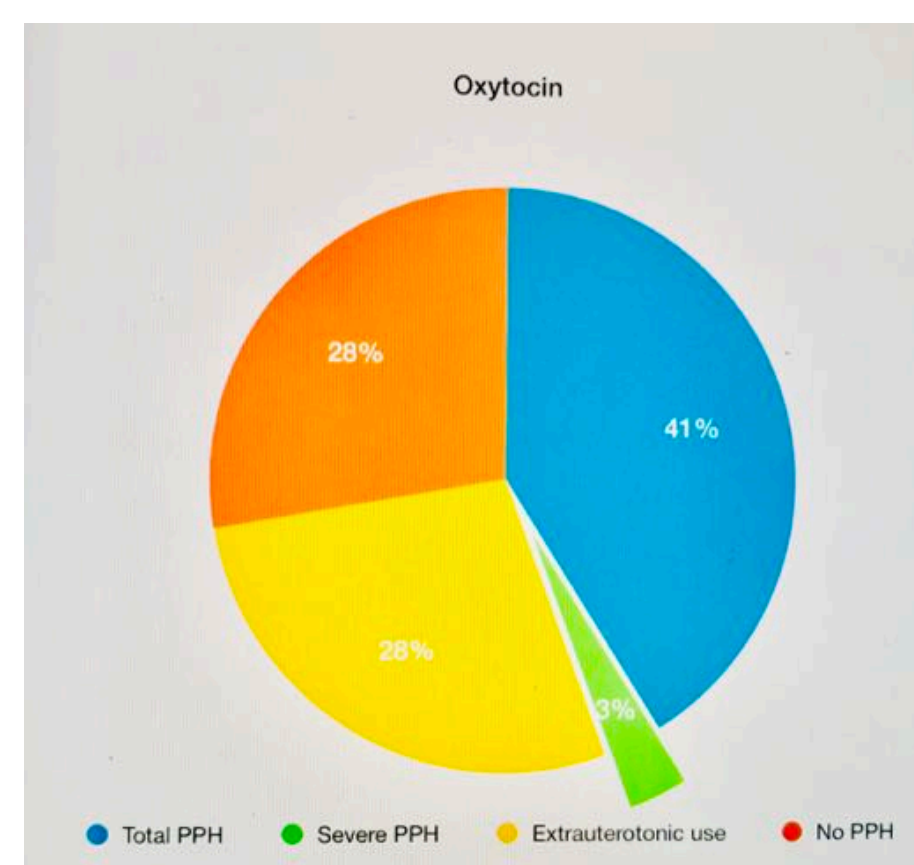
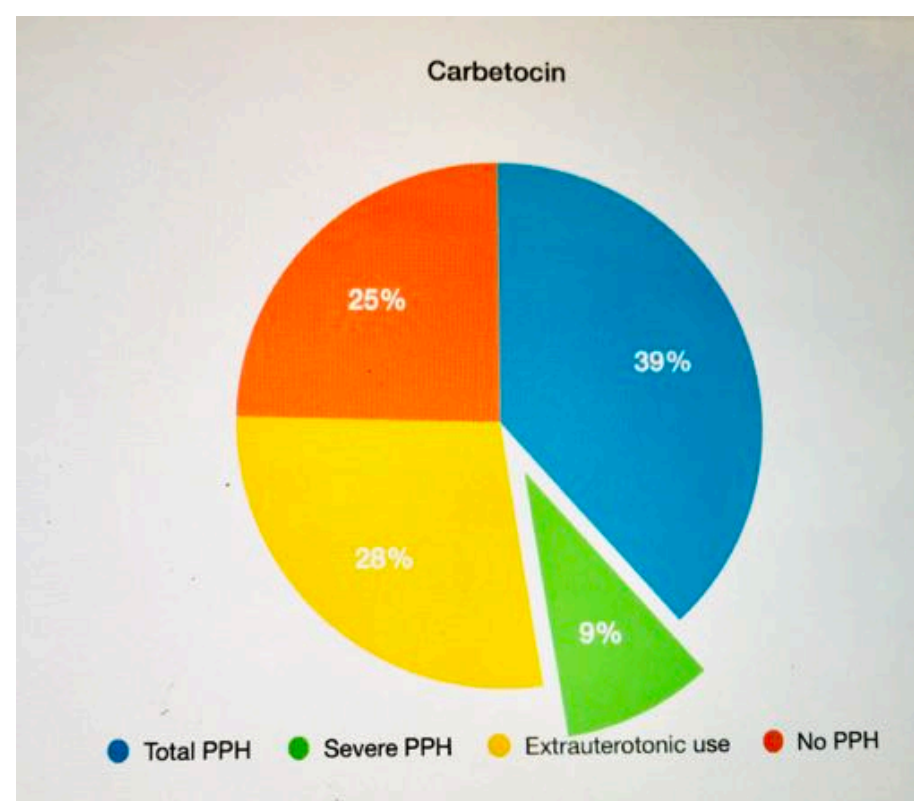
Our audit population was women who had emergency caesarean section during labour at the Northern Hospital in Melbourne between the 1st of January 2018 and the 30th of September 2018, who had received either Carbetocin 100mcg or Oxytocin 5 units for the completion of the third stage of labour at clinician discretion.

The primary outcome was the requirement of additional uterotonics.

Women in active labour only were included. Our definition of active labour was cervical dilatation more than or equal to five cm dilated as per the WHO definition.

Patients with placenta praevia, having c-section under general anaesthesia and who needed an immediate caesarean section for fetal distress were excluded.

Chi-squared analysis was used on data collected from Birthing Outcome System (BOS) and Clinical Patients Folders (CPF).



## Reference

1. WHO. Managing complication in pregnancy and childbirth: a guide for midwives and doctors. Geneva: WHO: 2000. Reprint 2007. Available from: [http://www.who.int/publications/2007/9241545879\\_eng.pdf](http://www.who.int/publications/2007/9241545879_eng.pdf) [last accessed 27 Oct 2013].
2. Hunter DJ, Schulz P, Wassenaar W. 1992. Effect of carbetocin, a long-acting oxytocin analog on the postpartum uterus. Clinical Pharmacology and Therapeutics 52:60-67.
3. Dansereau J, Joshi AK, Helewa ME, Doran TA, Lange IR, Luther ER, et al. Double-blind comparison of carbetocin versus oxytocin in prevention of uterine atony after caesarean section. Am J Obstet Gynecol 1999 Mar; 180(3 Pt 1):670e6.
4. Attilakos G, Psaroudakis D, Ash J, et al. Carbetocin versus oxytocin for the prevention of postpartum hemorrhage following caesarean section: the results of a double-blind randomized trial. BJOG 2010; 117:929-36.