International Journal of Medical and Pharmaceutical Research
Website: https://ijmpr.in/ | Print ISSN: 2958-3675 | Online ISSN: 2958-3683
NLM ID: 9918523075206676
Volume: 4 Issue:6 (Nov-Dec 2023); Page No: 18-20

Original Article

IJMPR

A Comparative Study of Blood Loss Estimation in Normal Delivery by Visual Estimation Vs Gravimetric Method

Dr. Prameela Menon[1], Dr. Tina Thomas[2]*

[1] MS, DGO, MRCOG, FICOG, Professor, Department of Obstetrics and Gynecology, Amala Institute of Medical Sciences, Thrissur, 680555
[2] MBBS, Junior Resident, Department of Obstetrics and Gynecology, Amala Institute of Medical Sciences, Thrissur, 680555

ABSTRACT

Introduction: Conventionally blood loss assessment during labour is done by naked eye assessment but it is subjective and many times small prickles of blood loss is overlooked and patients end up in DIC and maternal morbidity. Sometimes blood loss during labour is overestimated and hence unnecessary blood transfusions are also being given.
The objective of this study was to find out whether gravimetric method will help to assess blood loss more accurately than visual method and thereby help reducing probable morbidity.
Aim: To compare blood loss estimation in normal delivery by visual estimation vs gravimetric method (dry mop weight measurement)
Study Design: Observational Study
Results: 1) Gravimetric (Dry mop weight) method improved the detection of measured blood loss compared with the visual inspection
2) The mean blood loss was 300ml by visual inspection and 400ml by gravimetric method
Conclusion: 1) Gravimetric method can be used to accurately measure the postpartum blood loss in vaginal delivery.
2) Gravimetric method is a rapid and precise procedure to diagnose PPH in labour room.
3) Visual EBL should be replaced with dry mop weight measurement of postpartum blood loss.

Key Words: *Obstetric blood loss, visual, gravimetric*

***Corresponding Author**
Dr. Tina Thomas*
MBBS, Junior Resident, Department of Obstetrics and Gynecology, Amala Institute of Medical Sciences, Thrissur, 680555

INTRODUCTION

Conventionally blood loss assessment during labour is done by naked eye assessment but it is subjective and many times small prickles of blood loss is overlooked and patients end up in DIC and maternal morbidity. Sometimes blood loss during labour is overestimated and hence unnecessary blood transfusions are also being given.

A study done by Hanan [1] on visual estimation versus gravimetric measurement of postpartum blood loss: a prospective cohort study, aimed to assess the accuracy of visual estimation of postpartum blood loss (by each of two main health-care providers) compared with the gravimetric calculation method.

The objective of this study was to find out whether gravimetric method will help to assess blood loss more accurately than visual method and thereby help reducing probable morbidity.

AIM

To compare blood loss estimation in normal delivery by visual estimation vs gravimetric method (dry mop weight measurement)

STUDY DESIGN

Observational Study

METHOD

1) A study was done at the Amala Labour room in the month of June 2022.
2) 63 pregnant women who had spontaneous and induced labour after 20 weeks of gestation was evaluated.
3) Dry mop weight was used to evaluate amount of blood loss during normal delivery after separating amniotic fluid.
4) A separate mop placed under the pelvis just after birth and all gauze pads, gauze pieces, roller gauzes and underpad

used after birth was weighed after delivery to quantitatively to measure blood loss.

5) Blood soaked underpad, gauze pads, gauze pieces and roller gauzes were weighed where each gram of blood was estimated as one milliliter (1gm = 1ml).
6) Weighed on electronic scale.
7) Visual estimation of blood loss was also made.
8) Just after delivery & cord clamping, visual assessment of blood loss was made with help of pictorial blood loss assessment method.

Measured blood loss between the two was compared.

RESULT AND ANALYSIS

Method of Blood Assessment	Mean	Std. Deviation	P Value (Student T Test)
Visual	**335.0794**	**82.75251**	**0.0001**
Gravimetric	**450.7937**	**79.90522**	

This table shows that the p value is < 0.05 (here 0.001) which indicates a significant difference, showing gravimetric method improved the detection of measured blood loss compared with visual inspection

	Min	Max	Mean	Std. Deviation
Visual	**245.00**	**560.00**	**335.0794**	**82.75251**
Gravimetric	**355.00**	**675.00**	**450.7937**	**79.90522**

The mean blood loss was 300ml by visual inspection and 400ml by gravimetric method.

Cronbach'sAlpha
.969

Cronbach's alpha is a way of assessing reliability or internal consistency. If value is more than 0.9 (here 0.969) it indicates that is excellent.

RESULTS

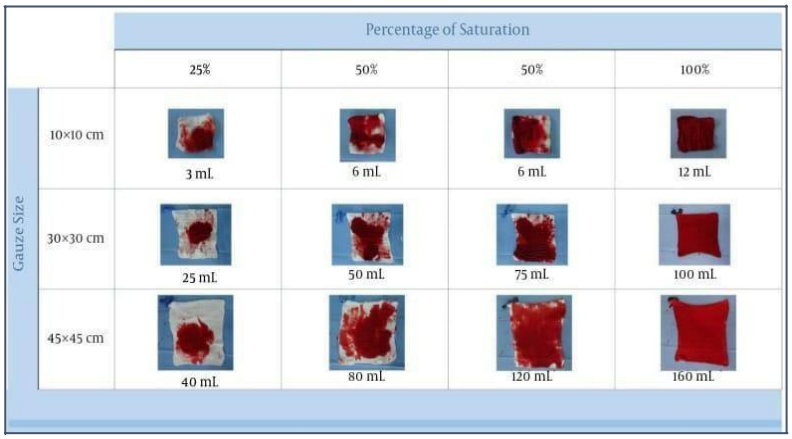
1) Gravimetric (Dry mop weight) method improved the detection of measured blood loss compared with the visual inspection
2) The mean blood loss was 300ml by visual inspection and 400ml by gravimetric method.

GRAVIMETRIC METHOD OF BLOOD LOSS

1) Underpad (max saturate capacity)
   60 gm x____=_____gm
2) B Gauze Pad (max saturate capacity)
   4 gm x_____=_____gm
3) Gauze Piece (max saturate capacity)
   4 gm x_____=_____gm
4) Roller Gauze (max saturate capacity)
   4 gm x_____=_____gm

Total=

VISUAL ASSESSMENT OF BLOOD LOSS



DISCUSSION

In a study done by Hanan [1] on visual estimation versus gravimetric measurement of postpartum blood loss: a prospective cohort study. Results showed that there was a significant difference between the gravimetric calculated blood loss and both health care providers' estimation with a tendency to underestimate the loss by about 30%. It was concluded that healthcare providers tend to underestimate the volume of postpartum blood loss by about 30%.

The American College of Obstetricians and Gynecologists makes the following recommendations and conclusions:

- Quantitative methods of measuring obstetric blood loss have been shown to be more accurate than visual estimation in determining obstetric blood loss.
- Studies that have compared visual estimation to quantitative measurement have found that visual estimation is more likely to underestimate the actual blood loss when volumes are high and overestimate when volumes are low.
- Although quantitative measurement is more accurate than visual estimation for identifying obstetric blood loss, the effectiveness of quantitative blood loss measurement on clinical outcomes has not been demonstrated.
- Implementation of quantitative assessment of blood loss includes the following two items: 1) use of direct measurement of obstetric blood loss (quantitative blood loss) and 2) protocols for collecting and reporting a cumulative record of blood loss post delivery.

Our study showed that the gravimetric method can be used to accurately measure the postpartum blood loss in vaginal delivery.

Gravimetric method is a rapid and precise procedure to diagnose PPH in labour room.
Visual EBL should be replaced with dry mop weight measurement of postpartum blood loss.

REFERENCES

1. Visual estimation versus gravimetric measurement of postpartum blood loss: a prospective cohort study Hanan M F Al Kadri [1], Bedayah K Al Anazi, Hani M Tamim .
2. ACOG-Quantitative Blood Loss in Obstetric Hemorrhage. Committee Opinion CO, Number 794,December 2019