IS ROUTINE KLEIHAUER-BETKE TEST USEFUL TOOL IN THE MANAGEMENT OF WOMEN WITH DECREASED FOETAL MOVEMENTS?

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Excellence in Women's Health

Introduction

Stillbirth is a global issue and various governments have been adopting measures to curb the issue by launching campaigns such as Every Baby Counts. 2500 still births are reported annually in Australia and New Zealand[1]. One concerning issue is antenatal foetal-maternal haemorrhage, with a common presenting complaint of decreased foetal movements[2]. It is associated with placental abruption, trauma, ECV and can lead to death and neurological sequelae when >30mLs[3-4]. It is assessed via a Kleihauer-Betke (KL) test[5]. This test quantifies the amount of foetal haemoglobin in maternal circulation. The cost of the test is $8.95 apart in addition to cost of collecting the blood.

The Royal Brisbane and Women's Hospital has adapted the updated PSANZ guidelines which recommends a KL, USS in addition to CTG for all women who present with DFM[2]. However, it is quite labour intensive and costly investigation and can also be falsely positive in maternal haemoglobinopathies[5].

Objectives

This study was designed to analyse whether performing a routine KL test has an impact on the management and outcome of women with DFM.

Methodology

This is an observational cohort study conducted in all women who presented with decreased foetal movements at the Royal Brisbane and Women's Hospital, Queensland in between January 1st and June 31st 2017. Almost of them had KL test, USS and CTG. Data was collected on the demographics, management and delivery outcomes of these women. Those with multiple pregnancy or <28 weeks gestation were excluded.

Results

Total of 445 mothers presented with DFM during the study period

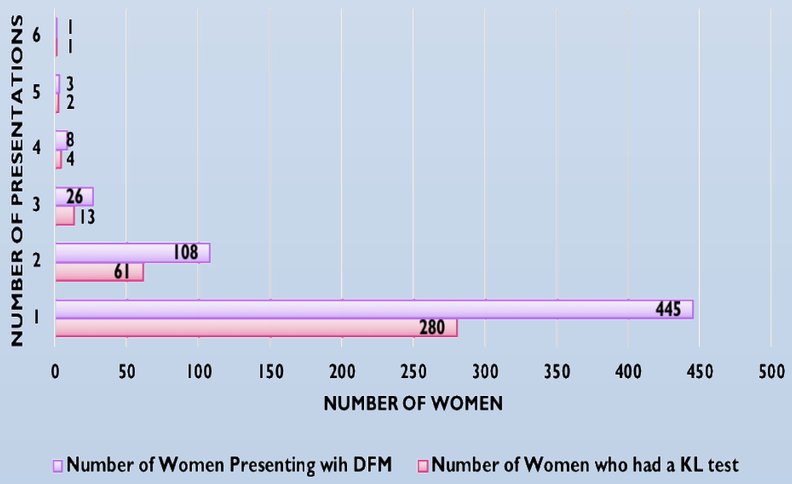
24.3% presented more than once

254 women had medical or obstetric complications

73.65% had normal obstetric ultra sound scan and 4 of them did not have USS because of second presentation within a week or they were delivered

16 had abnormal CTG

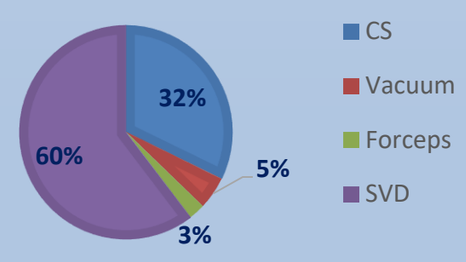
RATES AT WHICH KL WERE COMPLETED IN WOMEN PRESENTING WITH DFM



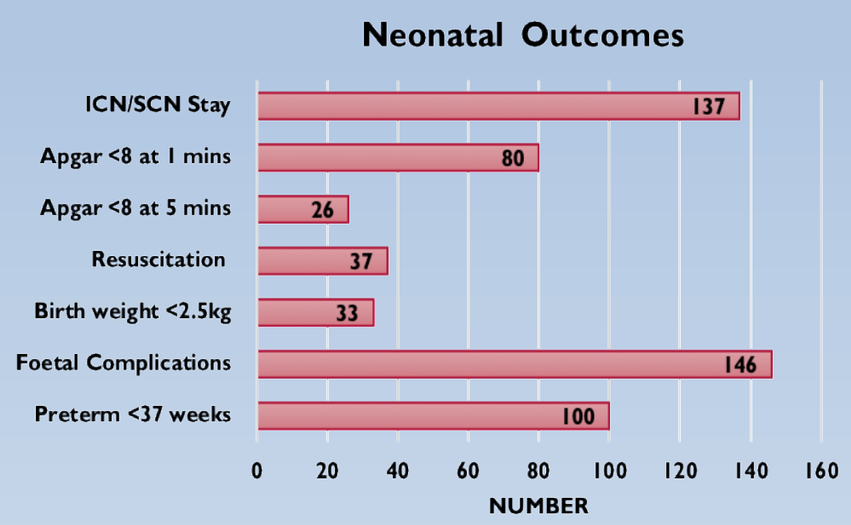
280 (62.9%) women had a KL test completed on their first presentation for DFM. Out of this, 3 (0.67%) came back positive

KL was completed for 95.4% of mothers presenting for the second time with one positive result

MODE OF DELIVERY



* 42.1% had emergency delivery following DFM presentation



9.7% were born preterm. Earliest delivery was at 29 weeks for APH.

Three delivered at 42 weeks gestation and one at 43 weeks

25.6% of babies required admission into neonatal unit

There were 2 stillbirths and 1 neonatal death

Sub analysis of Positive Keilhauer

	A	B	C	D
Gestation at Presentation	28	35	38+5	40+4
Comments	B-thalassemia trait	B-thalassemia trait	-	-
Kleihauer Value	6.2	12.7	2.7	1.1
CTG	Normal	Normal	Normal	Normal
Ultrasound	Normal incl. dopplers	Normal incl. dopplers	Not done	Not done
Intervention	D/C home	D/C home	D/C Home	Induction of Labour
Delivery Gestation	40+2	39+0	39+2	40+4
Mode of Delivery	SVD	SVD	Elective LUSCS	Ventouse Delivery
APGAR	9, 9	7, 9	9, 9	9, 9
Resuscitation	Nil	CPAP	Nil	Mask IPPV
Nursery Admission	Nil	Nil	Nil	Nil
Outcome	Live	Live	Live	Live
Blood Group	A POS	O POS	B POS	O POS

Conclusion

This study identifies that performing KL test and USS for all women who presented with DFM is a futile exercise. It's a costly invasive test without any benefit to the mother or baby or in the decision making. We suggest that the new practice of routinely performing KL test should be abandoned unless there are large trails addressing the benefit.

Reference

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