

What is the role of the Kleihauer test in the context of reduced foetal movements?

Authors: A Boccabella¹, U Pathmanathan¹, R Thangeswaran¹

Affiliation: 1 Royal Brisbane and Women's Hospital, Brisbane

Correspondence: allegra.Boccabella@health.qld.gov.au

Introduction:

Self-reported maternal detection of reduced foetal movements after 28 weeks is an important tool which is aimed to help reduce stillbirth. As part of the assessment of a patient presenting for reduced foetal movements, the Kleihauer test may be used to detect Foeto-maternal haemorrhage.

Methods:

Retrospective cohort study of 522 women who presented with reduced foetal movements to a tertiary hospital between 1 January to 30 June 2017 and an analysis of their presenting characteristics, Ultrasound findings (USS), Kleihauer results and foetal and maternal delivery outcomes.

Results:

Most women (n=382 74.5%) had one presentation for decreased foetal movements with number of presentations ranging from 1 to 6. 87.3% of presentations were for decreased foetal movements (n=448) and 9.6% were for absent movements (n=48).

Neonatal Deaths

- 4 neonatal or foetal deaths occurred (0.8%),
 - 1 of these deaths was foetal 3 were neonatal

Ultrasound Scans

- majority of USS were normal (78.9%, n= 295) but detected 1 case if intrauterine foetal demise (0.3%).

Kleihauer Test

- 62.7% of participants (n=315) had a Kleihauer test when presenting for decreased foetal movements.
- 1.0% (n=3) had a Kleihauer greater than or equal to 1.
- 75% (n=3) of the instances of foetal (IUFD) or neonatal death had a Kleihauer test performed and was normal in each case
- For those with elevated Kleihauer tests (n=3), patients were either admitted (n=1), induced (n=1) or sent home (n=1).

Table 1 – Selected Maternal outcomes for women presenting with reduced foetal movements

Gestation at delivery	N	%
<32	7	1.4
32 to 37	41	8.0
37+	394	76.8
Post 41+	42	8.2
Delivery indication includes reduced foetal movements	74	14.2
Total Emergency Deliveries	185	35.4

Table 2 – Selected Foetal outcomes for women presenting with reduced foetal movements

	Mean	Range
Birthweight	3270.70g	1062g to 4570g
	N (%)	N (%)
APGAR	1 min	5 min
<5	10 (1.9)	3 (0.6)
Resuscitation	162 (31.0)	
ICN/SCN	188 (36.0)	
Cord Gases pH		
<7.14	29 (5.7)	

Discussion: The utility of the Kleihauer test for all presentations of reduced foetal movements needs further investigation. The use of CTG and USS may have more utility in detecting foetal compromise and hence stillbirth reduction.