

DOES THE FETAL PILLOW OBJECTIVELY ELEVATE THE FETAL HEAD?

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BACKGROUND

- A deeply engaged fetal head during late first stage and second-stages of labour occurs in 1.5% of caesarean sections (1).
- It is associated with adverse maternal outcomes in terms of postpartum haemorrhage (PPH), organ damage (uterine angle extension, bladder, bowel, ureter, cervix and vaginal trauma), longer hospital stay, as well as adverse neonatal outcomes including skull fracture, Hypoxic Ischaemic Encephalopathy (HIE)and fetal death (2).
- The Fetal Pillow (*CooperSurgical, Inc.*) is a mechanical device which can be used to elevate the fetal head vaginally prior to caesarean section to aid delivery.

OBJECTIVES/AIMS

- Our aim was to assess the station of fetal head following insertion of the Fetal Pillow objectively using trans-perineal ultrasound (TPUS)

METHODS

- Women undergoing a full dilatation caesarean section, where a clinical decision had been made to use a Fetal Pillow were invited to participate.
- A TPUS was performed to determine Angle of Progression (AoP) before and after inflation of the Fetal Pillow. AoP is used to assess the station of the fetal head sonographically by measuring the angle between the long axis of the pubic symphysis and a line extending from its most inferior portion tangentially to the fetal skull (3).

CONCLUSIONS

- The present study is the first to our knowledge to demonstrate objectively the degree to which the fetal pillow may elevate the fetal head prior to caesarean section. More research is required to understand whether elevating the head in this way facilitates a faster, less traumatic delivery, reducing maternal complications associated with lacerations to the genital and urinary tract, and reducing incidence of fetal morbidity such as skull fracture and intra-cranial haemorrhage.

RESULTS

- Five women who had a Fetal Pillow inserted were recruited. Three had had a failed instrumental delivery.
- TPUS revealed a median AoP of 122 degrees prior to inflation of the Fetal Pillow.
- After inflating the Fetal Pillow with 180mls of saline this decreased to 100 degrees (p = 0.04, Wilcoxon Signed-Rank Test).
- This is equivalent to a change of the fetal head station from +1 to 0 prior to insertion of Fetal Pillow to -1 to -2 after inflation of the Fetal Pillow.

AoP prior to inflation (degrees)	AoP after inflation (degrees)
111	114
122	97
129	95
138	112
117	100
Median 122 degrees	Median 100 degrees

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