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Objective

A Second-Stage Caesarean Section (SSCS) is likely to be associated with increased intraoperative maternal and fetal complications. The fetal pillow (FP) is a single-use disposable device. Its ‘pillow’ compartment is inflated with saline in order to disimpact and elevate the fetal head at SSCS.

The FP has been suggested to reduce maternal trauma and fetal adverse outcomes through reduced blood loss, reduced hospital stay and improved cord pH when compared to delivery without the use of a FP at SSCS¹. However, previous studies have not demonstrated any statistically significant benefit from the use of the FP to prevent maternal or fetal adverse outcomes¹.

Few studies have looked into the opinions of the operator regarding use of the FP.

Design

A prospective observational study conducted at North Tees and Hartlepool NHS Foundation Trust, UK, with an annual birth rate of 2300. Data was collected over 12 months.



Method

All women who underwent a SSCS with the use of a FP were included from June 2021-June 2022. The following outcomes were measured:



Maternal outcomes

Uterine extension, total blood loss, requirement for blood transfusion, bladder injury, prolonged catheterisation and admission to High Dependency Unit (HDU).



Neonatal outcomes

Admission to Special Care Baby Unit (SCBU), cord pH, APGAR score at 5 minutes (APGAR-5) and other fetal morbidity.



Operator opinions

The opinions of the operator regarding the ease of use of the FP and delivery of the fetal head were collected.

Results

A total of 21 cases was recorded over 12 months (2 cases excluded from analysis due to incomplete data on operator opinions).

84% of women were primigravid. 53% of patients were aged 19-29 years, age range 19-39 years. 53% had Body Mass Index (BMI) over 30kg/m² and 16% had a BMI over 40kg/m².

26% of cases saw the FP inserted after failed trial of instrumental delivery.

Theatre times

Median incision to delivery time was 6 minutes, (range 1-20 minutes). Median total operating time 57 minutes, (range 24-128 minutes).

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Results (continued)

Maternal outcomes

26% of women had a uterine extension (grade I-II). Blood loss >1000ml was recorded in 16%, with no patients requiring a blood transfusion. No patient sustained a bladder injury or required prolonged catheterisation nor required admission to HDU.

Neonatal outcomes

One baby was admitted to SCBU. Median cord pH (Venous) 7.30, range (7.16-7.38). Median APGAR-5 was 9 (range 6-10). There was no evidence of other fetal morbidity.

Operator opinions

63% of operators considered delivery of the fetal head to be easy with the use of the FP.

100% of operators found insertion and removal of the FP to be easy.

100% of operators would use the FP again.

100% of operators would recommend the FP to others.

Conclusions

The FP is a safe and useful device for the delivery of the fetal head during SSCS and is well liked by operators. This observational study has shown similar results to other prospective studies and appears to show that the FP allows a significant shift from the expected difficulty in delivering the fetal head in SSCS.

Maternal and neonatal outcome results are comparable to those seen in other studies and encourage the use of the FP, however, larger randomized controlled trials are required to support this.

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