Royal College of Obstetricians & Gynaecologists

By email
Laurinda Bower
HM Assistant Coroner
for **Nottingham City and Nottinghamshire**

3 December 2020

Dear Miss Bower,

Re: Regulation 28 report into the death of Baby Noah Richard Poole

Thank you for your letter of 9 October detailing the sad death of Baby Noah Richard Poole in January 2019.

For background, impacted fetal head (IFH) at caesarean section delivery is an emerging issue nationally that has been recognised by NHS Resolution [1] who made a series of recommendations:

- Increase awareness of impacted fetal head and difficult delivery of the fetal head at caesarean section, including the techniques required for care.

- Research to understand the prevalence, causes and management of impacted fetal head is a priority, along with effective training in the management techniques

IFH is also recognised as an emerging problem in Australia and the US.

In your report you raise two matters of concern:

(1) Lack of professional guidance regarding the use of a vaginal push to disimpact the fetal head

(2) Lack of professional guidance in relation to the use of fetal pillows

In our response we would like to address these issues in turn, setting out the current guidance and state of the evidence around each issue.

1. **The use of a vaginal push to disimpact the fetal head**

Several techniques are described to deliver an IFH:

- The **push** technique: assistant inserts a hand into the vagina to elevate the head with cupped fingers [2].
- The **pull** technique, or reverse breech extraction: operator grasps one/ both fetal legs from the upper segment delivering them through the uterine incision [3, 4].

- The **Patwardhan method** for occipito-anterior and transverse positions: operator delivers shoulders first and applies gentle traction at the fetal waist to deliver the body. The technique for occipito-posterior positions is a modification of the pull technique [5].
- The **Fetal Pillow** ®: a disposable soft silicone balloon device is inserted vaginally and inflated with saline to elevate the fetal head [6].
- Use of tocolytic agents to relax the uterus [7].

A systematic review and meta-analysis published in 2015, including 9 observational studies and 3 prospective randomised comparative studies (734 births) [8], demonstrated a lower risk of maternal complications such as extension of the uterine incision with the pull method compared with the push method. Although there were no statistically significant differences in neonatal outcomes, one randomised comparative study suggested a possible increased risk of fetal morbidity with the push method. Studies of the Patwardhan method were small but there were fewer maternal complications compared with the push method [8].

A Cochrane review of IFH (4 randomised studies) [9], identified that the pull method may improve maternal outcomes, particularly reduced operative duration, compared to pushing. Tocolysis did not confer any significant benefit [9].

Currently, the first line approach for management of IFH tends to be based on individual familiarity and experience, rather than evidence of effectiveness. The pull and Patwardhan methods are infrequently used, despite possible advantages.

In conclusion, given the lack of training in alternative techniques, it is reasonable that teams use the vaginal push technique.

2. **The use of fetal pillows**

Please see our formal response to the NICE consultation on their fetal pillow guidance – enclosed.

Summary

The RCOG recognises that there is a current dearth in both guidelines and training for the management of IFH and we are committed to addressing this:

- We have commissioned a Scientific Impact Paper on the management of IFH to inform practice.

- There are at least two research groups in the UK working on training for IFH, including new mannequins. The RCOG commits to scaling this training nationally to improve outcomes.

Thank you for your letter. I hope the above is helpful and demonstrates that the RCOG is very much committed to working to prevent tragedies such as the death of Baby Noah. If you require any further information, please do not hesitate to contact me.

Yours sincerely,

[redacted]
Vice-President, Clinical Quality

References

1. Resolution, N., *Early Notification Scheme - Year 1*. 2019, NHS Resolution: London.
2. Landesman, R. and E.A. Graber, *Abdominovaginal delivery: modification of the cesarean section operation to facilitate delivery of the impacted head.* Am J Obstet Gynecol, 1984. **148**(6): p. 707-10.
3. [redacted], *A meta-analysis of reverse breech extraction to deliver a deeply impacted head during cesarean delivery.* Int J Gynaecol Obstet, 2014. **124**(2): p. 99-105.
4. [redacted]*Reverse breech extraction in cases of second stage caesarean section.* J Obstet Gynaecol, 2012. **32**(6): p. 548-51.
5. [redacted] et al., *Second stage caesarean section: evaluation of patwardhan technique.* J Clin Diagn Res, 2014. **8**(1): p. 93-5.
6. [redacted], et al., *Does elevating the fetal head prior to delivery using a fetal pillow reduce maternal and fetal complications in a full dilatation caesarean section? A prospective study with historical controls.* J Obstet Gynaecol, 2014. **34**(3): p. 241-4.
7. [redacted], *Nitroglycerin to facilitate fetal extraction during cesarean delivery.* Obstetrics & Gynecology, 1998. **91**(1): p. 119-24.
8. [redacted], *Comparison of techniques used to deliver a deeply impacted fetal head at full dilation: a systematic review and meta-analysis.* BJOG: An International Journal of Obstetrics & Gynaecology, 2015: p. n/a-n/a.
9. [redacted]*Techniques for assisting difficult delivery at caesarean section.*, [redacted] Editor. 1996, [redacted]: Chichester. p. 45.