Induction of labour does not prevent shoulder dystocia in non-diabetic women with a suspected macrosomic fetus. Grade D

Induction of labour at term can reduce the incidence of shoulder dystocia in women with gestational diabetes. Grade B

Elective caesarean section should be considered to reduce the potential morbidity for pregnancies complicated by pre-existing or gestational diabetes, regardless of treatment, with an estimated fetal weight of greater than 4.5 kg.

6.2 How is shoulder dystocia diagnosed?

Birth attendants should routinely look for the signs of shoulder dystocia. Timely management of shoulder dystocia requires prompt recognition. The attendant health carer should routinely observe for:

- difficulty with delivery of the face and chin
- the head remaining tightly applied to the vulva or even retracting (turtle-neck sign)
- failure of restitution of the fetal head
- failure of the shoulders to descend.

Routine traction (d.h. nicht stärker ziehen als sonst gezogen wird um die vordere Schulter zu entwickeln) in an axial direction can be used to diagnose shoulder dystocia but any other traction should be avoided.

6.3.1 How should shoulder dystocia be managed?

- Shoulder dystocia should be managed systematically (see appendix 1).
- Immediately after recognition of shoulder dystocia, additional help should be called.
- The problem should be stated clearly as ‘this is shoulder dystocia’ to the arriving team.
- Fundal pressure should not be used.

McRoberts’ manoeuvre is a simple, rapid and effective intervention and should be performed first. Suprapubic pressure should be used to improve the effectiveness of the McRoberts’ manoeuvre. An episiotomy is not always necessary.

6.3.2 What measures should be undertaken if simple techniques fail?

Internal manoeuvres or ‘all-fours’ position should be used if the McRoberts’ manoeuvre and suprapubic pressure fail.

Eine Episiotomie verändert die knöchernen Verhältnisse nicht, ermöglicht aber einen weiteren Zugang für den Geburtshelfer.

If simple measures (the McRoberts’ manoeuvre and suprapubic pressure) fail, then there is a choice to be made between the all-fours position and internal manipulation.

Gaining access to the vagina for internal manoeuvres: the most spacious part of the pelvis is in the sacral hollow; therefore vaginal access should be gained posteriorly, into the sacral hollow. The whole hand should be entered posteriorly to perform internal rotation or delivery of the posterior arm.62 The woman should be brought to the end of the bed, or the end of the bed should be removed, to make vaginal access easier. Delivery can then be facilitated by rotation into an oblique diameter or when possible by a full 180 degree rotation of the fetal trunk,63,64 or by delivery of the posterior arm.65

Internal rotational manoeuvres were originally described by Woods and Rubin. Rotation can be most easily achieved by pressing on the anterior or posterior aspect of the posterior shoulder. Pressure on the posterior aspect of the posterior shoulder has the additional benefit of reducing the shoulder diameter by adducting the shoulders. The shoulders should be rotated into the wider oblique diameter, resolving the shoulder dystocia. If pressure on the posterior shoulder is unsuccessful,
an attempt should be made to apply pressure on the posterior aspect of the anterior shoulder to adduct and rotate the shoulders into the oblique diameter.

**Delivering the posterior arm** reduces the diameter of the fetal shoulders by the width of the arm. The fetal wrist should be grasped and the posterior arm should be gently withdrawn from the vagina in a straight line. Delivery of the posterior arm is associated with humeral fractures with a reported incidence between 2% and 12%, but the neonatal trauma may be a reflection of the refractory nature of the case, rather than the procedure itself.

There are no randomised comparative studies available comparing delivery of the posterior arm and internal rotation. Some authors favour delivery of the posterior arm over other manoeuvres, particularly where the mother is large. Others have reported that rotational methods and posterior arm delivery were similarly successful, but rotational manoeuvres were associated with reductions in both BPI and humeral fractures compared to delivery of the posterior arm. Therefore, healthcare professionals should base their decision on their training, clinical experience and the prevailing circumstances.

‘All-fours’ technique: the ‘all-fours’ position has been described, with an 83% success rate in one case series.

The individual circumstances should guide the healthcare professional as to whether to try the ‘all-fours’ technique before or after attempting internal rotation and delivery of the posterior arm. For a slim mobile woman without epidural anaesthesia and with a single midwifery attendant, the ‘all-fours’ position is probably more appropriate, and clearly this may be a useful option in a community setting. For a less mobile woman with epidural anaesthesia in place, internal manoeuvres are more appropriate.

Third-line manoeuvres should be considered very carefully to avoid unnecessary maternal morbidity and mortality, particularly by inexperienced practitioners.

It is difficult to recommend an absolute time limit for the management of shoulder dystocia as there are no conclusive data available, but there appears to be a very low rate of hypoxic ischaemic injury up to five minutes.

Several third-line methods have been described for those cases resistant to all standard measures. These include cleidotomy (surgical division of the clavicle or bending with a finger), symphysiotomy (dividing the anterior fibres of symphyseal ligament) and the Zavanelli manoeuvre. It is rare that these are required.

**Anhang 1 (gemäss SaFE study)**

1. McRoberts' Manöver
2. Suprapubischer Druck
3. Entwicklung des hinteren Armes
Anhang 2

Algorithm for the management of Shoulder Dystocia

CALL FOR HELP
Midwife Coordinator, additional midwifery help, experienced obstetrician, neonatal team and anaesthetist

McROBERTS’ MANOEUVRE
(Thighs to abdomen)

SUPRAPUBIC PRESSURE
(and routine axial traction)

Consider episiotomy if it will make internal manoeuvres easier

Try either manoeuvre first depending on clinical circumstances and operator experience

DELIVER POSTERIOR ARM

INTERNAL ROTATIONAL MANOEUVRES

Inform consultant obstetrician and anaesthetist

If above manoeuvres fail to release impacted shoulders, consider
ALL FOURS POSITION (if appropriate)
OR
Repeat all the above again

Consider cleftotomy, Zavanelli manoeuvre or symphysiotomy

Discourage pushing
Lie flat and move buttocks to edge of bed

Baby to be reviewed by neonatologist after birth and referred for Consultant Neonatal review if any concerns

DOCUMENT ALL ACTIONS ON PROFORMA AND COMPLETE CLINICAL INCIDENT REPORTING FORM.
Can we predict shoulder dystocia?

Revicky V, Mukhopadhyay S, Morris EP, Nieto JJ.

Source

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Abstract

PURPOSE:

To analyse the significance of risk factors and the possibility of prediction of shoulder dystocia.

METHODS:

This was a retrospective cohort study. There were 9,767 vaginal deliveries at 37 and more weeks of gestation analysed during 2005-2007. Studied population included 234 deliveries complicated by shoulder dystocia. Shoulder dystocia was defined as a delivery that required additional obstetric manoeuvres to release the shoulders after gentle downward traction has failed. First, a univariate analysis was done to identify the factors that had a significant association with shoulder dystocia. Parity, age, gestation, induction of labour, epidural analgesia, birth weight, duration of second stage of labour and mode of delivery were studied factors. All factors were then combined in a multivariate logistic regression analysis. Adjusted odds ratios (Adj. OR) with 95% confidence intervals (CI) were calculated.

RESULTS:

The incidence of shoulder dystocia was 2.4% (234/9,767). Only mode of delivery and birth weight were independent risk factors for shoulder dystocia. Parity, age, gestation, induction of labour, epidural analgesia, and duration of second stage of labour were not independent risk factors. Ventouse delivery increases the risk of shoulder dystocia almost 3 times, forceps delivery comparing to the ventouse delivery increases risk almost 3.4 times. Risk of shoulder dystocia is minimal with the birth weight of 3,000 g or less.

CONCLUSION:

It is difficult to foretell the exact birth weight and the mode of delivery, therefore occurrence of shoulder dystocia is highly unpredictable. Regular drills for shoulder dystocia and awareness of increased incidence with instrumental deliveries are important to reduce fetal and maternal morbidity and mortality.