DR Zahra Naiegi
Fellowship of perinatology
DEFINITION

A subjective clinical DX:
Turtle sign
Need additional maneuvers beyond gentle traction for delivery of anterior shoulder

OBJECTIVE DX:
Head to body time delivery two standard deviation above the mean (24 s) 60 s

Severity of dystocia is based on
need for multiple maneuvers to effect delivery
Whether or not sustained maternal or fetal injury
Prevalence: 0.2 to 3 percent of birth

It is an obstetric emergency

The obstetric provider must be prepared to recognize a shoulder dystocia immediately and timely management it
PATHOPHYSIOLOGY

Size discrepancy between fetal shoulder and maternal pelvic inlet

Fetal shoulder remain A-P position or descent simultaneously versus sequentially in to the pelvic inlet

Absence of truncal rotation

Anterior obstruction is more common than posterior
50% have no defined risk factor

50% of cases occur in fetus whose birth weight is <4000 g

The predictive value of any one or combination of risk factors is low (<10%)

TURTLE SIGN: represented by the retraction of the fetal head after expulsion may herald shoulder dystocia but is not diagnosis until the usual attempt at the delivery of the shoulder fail
TURTLE SIGN
RISK FACTORS

ANTE PARTUM:
High birth weight:
Incidence of shoulder dystocia increase progressively as birth weight > 4000 g
Morbidity and mortality increase significantly as birth weight ≥ 4500 g

Diabetes:
Likelihood of shoulder dystocia 7 fold over the nondiabetic
RISK FACTORS

- Previous shoulder dystocia
- Post term
- Male fetal sex
- Maternal obesity and excessive gestational weight gain
- Maternal demographics
RISK FACTORS

INTRA PARTUM:

Abnormal progress of labor

Operative vaginal delivery

In a classic study, the combination of birth weight > 4000 g, prolonged second stage, and mid pelvic operative delivery was associated with a 21% of shoulder dystocia
RISK REDUCTION

Dietary and life style intervention:
Reduce pre pregnancy obesity and gestational weight gain

Treatment of GDM

In pre gestational DM the level of glycaemia is a factor in macrosomia risk, but additional metabolic factors appear to be involved such that good but not stringent glycemic control may not substantially reduce the frequency of macrosomia and shoulder dystocia.
Pelvimetry and fetal biometry are not useful

Share decision making

General consensus → planned C/S in pregnancy most likely to result in shoulder dystocia with long term complication
Counsel the mother about the potential risk of recurrence (at least 10%)

Including factors in the current pregnancy that may impact this risk

**EFW**
Presence or absence of gestational diabetes

Elicit her participation in making a decision about route of delivery
MACROSOMIA

EFW > 5000 g IN WOMAN WITH OUT DM
Risk of shoulder dystocia >20%

EFW > 4500 g IN WOMAN WITH DM
Risk of shoulder dystocia 15%

In diabetic woman with 4000 g < EFW < 45000 g, if trial of labor prolonged second stage and operative vaginal delivery is needed C/S is better because of increasing the shoulder dystocia
PATIENT WITH IMMINENT MACROSOMIA

PATIENT WITHOUT DM with 4000 g< EFW<5000 g
Induction of labor at 39 w but expectant management is also reasonable

PATIENT WITH DM
In pre gestational DM timing of delivery is based on maternal & prenatal risk associated with the disease
In GDM with 4000 g< EFW< 4500 g discuss the risk and benefits of induction
GOAL:
Safe delivery before neonatal asphyxia and or cortical injury

GOLD TIME: 5 minutes!!!
MANAGEMENT

PRE PROCEDURE STEP AND CONSIDERATION:

Call for help
Explain procedure
The patient should be positioned with her buttocks flush with the edge of the bed
Not push while preparation are made and maneuvers are undertaken
  Avoid force full down ward traction and excessive angulation (>45%)
Performing Episiotomy
Drained a distended bladder
CHOICE APPROACH

UP TO DATE

FIRST: McRoberts with or without supra pubic pressure

SECOND: Delivery of posterior arm or shoulder

THIRD: Fracture of clavicle
HELPERR ALGORITHM

H call for Help
E Evaluated for Episiotomy
L Leg: Mc Roberts Maneuvers
P External Pressure-suprapubic
E Enter: rotational maneuvers
R Remove the posterior arm
R Roll the patient to her hands and knees
Mc Roberts

Before McRoberts Positioning

Diagonal orientation of symphysis makes shoulder delivery difficult

McRoberts Position

Pelvis tilts, orienting symphysis more horizontally to facilitate shoulder delivery
Delivery of posterior arm or shoulder
Effect of Posterior Arm Delivery
(reducing obstructing part of fetal shoulder)
ALL-FOURS
Rubins maneuver

- Two maneuvers
- First
  - rocking the fetal side to side by applying pressure to the maternal abdomen
- Second
  - Reverse corkscrew
  - Abduction of both shoulders
Wood Screw

2. Wood screw manoeuvre
All fails!! Last resort;

- Deliberate clavicular fracture.
- Zavenilli maneuver. (tocolyis, replace head→CS)
- Symphysiotomy. (risk of UT/SP injury)
- Cleidotomy. (with a dead fetus)
- Abdominal surgery + hysterotomy
Clear and complete documentation in the medical record

The best EFW

Description of the indication of operative vaginal delivery, fetal station and position of the head, instrument use, and time required to delivery

The time of DX / How the DX / Position of head

Description each of step & maneuvers

All significant personnel involved write their own notes

Umbilical blood gases (ABG & VBG)

The time the pediatrician and anesthesiologist were called
FETAL:
INCIDENCE: 5%
CAUSE: Trauma or asphyxia or both
Transient brachial plexus palsy (3% to 16%)
Clavicular fracture (1.7% to 9.5%)
Humerus fracture (0.1% to 4.2%)
Permanent brachial plexus palsy (0.5% to 1.6%)
HIE (0.3%)
Death (0.35%)
COMPLICATION

MATERNAL

Hemorrhage (11%)

Fourth-degree lacerations (3.8 %)

Rare complication

Samphyseal separation, lateral femoral cutaneous neuropathy, cervico vaginal laceration, urethral & bladder injury, uterine rupture
Take-home messages:

- Always be ready and calm while dealing with SD.

- Know your HELPERR

- Always document (time, maneuvers used, duration, involved arm)