Caesarean section-Practical Guidelines

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Caesarean section is the most frequently performed obstetric operation. It is also the operation which is full of risks to the mother because of existing maternal disease, inherent obstetric dangers and surgical and anaesthesia complications. There is an additional risk to the neonate and complications arising from the above conditions.

These reasons make the operation a most litigated one and hence precautions to safe-guard the mother and neonate and also obstetric team are necessary.

It is with this view that an attempt is made to provide guidelines to obstetricians as to what is good clinical practice.

It is of foremost importance to provide proper dated documentation from antenatal period to evaluate the ultimate management.

Patient selection:-

Every obstetrician.must preselect high risk patients in the antenatal period.

1) The simplest method is to give a card with instructions of antenatal follow-up and emergency admission advice.
   e.g. Mrs. A.B. previous two L.S.C.S., for elective L.S.C.S., to report immediately if pain in abdomen or bleeding P.V.
2) It is important to evaluate every patient by a senior member of the team at 36-37 weeks (including a vaginal examination)

This might help in detecting high-risk patients that may have been missed earlier.

Investigations:-

Certain baseline investigations are mandatory in all obstetric patients to ensure good clinical practice. The following are recommended.

1) Hb, P.C.V.,C.B.C.
2) Fasting blood sugar, post- glucose blood sugar.
3) blood group and Rh type.
4) urine examination
5) V.D.R.L.
6) H.I.V.1&2.
7) HBsAg
8) BuN and Serum creatinine.
9) USG at 16-20 weeks.

This ensures ruling out of major problems or sorts out problems of congenital malformation, evaluation for thalassemia or doing MSAFP(maternal serum alfa-feto protein)or any other specific test that may be needed.

Intrapartum selection for trial of scar:-

1) Patients at high risk are preselected on admission by the above management
2) To ensure safety,standard intrapartum monitoring should be carried out. The recommendation is as follow.
   a) investigations rechecked on admission or carried out urgently if needed.
   b) two hourly monitoring of:-1)maternal vital signs 2)FHS.3)uterine contraction.
   c) partogram to be charted.
   d) intrapartum electronic fetal heart rate monitoring at 1)admission 2)as indicated in established labour.
   e) if above is not available, "whitfield count"to be done at two hours.

Indications to terminate "trial of scar":-

1) Persistent maternal tachycardia
2) Scar tenderness
3) Abnormal vaginal bleeding
4) Fetal distress
5) Alteration of maternal vital signs
6) Hematuria

7) Receding of presenting part
8) Abnormal abdominal contour

Pre-operative preparation:-

Patients:-

1) Shaving and preparation of the parts
2) Indwelling catheter
3) Ryle's tube if patient is not starving
4) Starvation for six hours minimum if elective surgery
5) Pre-op
   a) Antibiotics for prophylactic therapy.
   b) Antiemetic to prevent aspiration(rantac, perinorm)
   c) no sedation immediate pre-operative period
6) IV line to be started
7) Blood sent for cross matching

Theatre:-

Anaesthesia

a) Boyle's apparatus is absolutely necessary even in a small nursing home to ensure handling emergency.
b) Pulse oximeter-to-ensure objective SaO_2 status in case of intraoperative complications
c) Continuous oxygen supply and anaesthetic gases
d) Baby resuscitation equipment
   1) Suction-machine other than that used for mother
   2) Laryngoscope
   3) Three to four endotracheal tubing
   4) Sterilised suction tubings
   5) Overhead light(warmer)

These must be located close/within the theatre.

Instruments:-

1) Overhead mobile lights.
2) O.T.Table which can have head low position and lateral tilt to prevent post anaesthesia collapse
3) Instruments
   a) Two knives
   b) Mayo's scissors
   c) Steeley's scissors
   d) Eight to ten artery forceps
   e) Eight Alli`s' forceps
   f) Green-Armitage clamps four
   g) Doyen's retractor 2 sizes.
   h) C shaped retractor set of three
   i) sponge holding forceps etc
4) Adequate linen,towels and mops with tail in counted bundles

These may seem expensive or elaborate, but an initial investment proves to be safer for the patient and obstetrician in the longer run.Monitoring when it is objective is also more effective in patient management as well in the court of Law. Personnel - 1)obstetrician 2)assistant at surgery 3)nurse 4)anaesthetist 5)neonatologist 6)one extra theatre help so that procedures become easier. The argument for the extra personnel that are recommended is the same as above.

Operative procedure:-

1) Incision:transverse is better,however,it is surgeon dependent
2) Use of cautery for adhesiolysis in abdominal wall minimises adhesion formation making the next caesaream section easier should it be needed in future.
3) Indwelling foley's catheter is cheaper by way of preventing post operative urinary infection and monitoring in difficult cases.
4) Scrupulous attention to aseptic techniques cannot be over emphasised.
5) Adequate separation of bladder from the lower segment is necessary
6) The incision on the uterus when made with scissors must turn upwards at the lateral ends.when incision is extended with a finger,care should be taken not to tear the lateral leash of veins and arteries
7) Extraction of cephalic fetus can be done
   a) Manually
   b) Simpson's forceps applied anteroposteriorly on the head. This is useful in a high floating head.
   c) Patwardhan's technique for deeply engaged head or push up the head per vaginally by the assistant.

Breech: to be extracted just like conducting an assisted breech delivery.

Brow: the head to be flexed as vertex and delivered.

Face: anterior positions to be delivered maintaining full extension of the head. In posterior positions, the face with the chin needs to be displaced, brought anteriorly and delivered.

Transverse/Oblique: internal podalic version with breech extraction to be done.

8) Closure of the uterus: Various acceptable modalities are described with no adverse effects.

   a) Closure in two layers-both continuous, first continuous, second interrupted, interrupted only, single layer continuous suture closure is equally effective. Meticulous haemostasis cannot be over emphasised.
   b) Closure of the utero-vesical pouch-optional.

9) Closure of the abdomen: surgeon's preference

Anaesthesia:-

a) It is cheaper and safer to have a Boyle's apparatus.
b) It is mandatory to keep a good supply of emergency drugs.
c) A suction machine and a separate suction apparatus for the baby is advisable.

Drugs: atropine, adrenaline, hydrocortisone succinate, soda-bicarb, calcium gluconate, mannitol, lasix, perinorm etc. are needed in addition to routine I.V fluids and colloids.

The neonate:-

It is important to have a neonatologist to resuscitate and manage the first few minutes of life. The rationale is that he/she is the person who understands neonatal homeostasis best. Secondly the anaesthetist is free to manage the mother should she require intensive monitoring. Thirdly, the surgeon is comfortable with an expert handling the baby.

Blood bank:-

It is necessary to have a unit of blood standby in all cases of L.S.C.S., although it is needed rarely. In high risk cases like placenta previa or anaemia it may be advisable to transfuse a unit in the theatre to prevent complications.

Intrauterine transfer:-

The obstetrician is responsible for the well being of the mother and baby. Most often he/she can do so but there may be constraints of diagnostic facilities or blood bank facility or a complicated patient. In such cases it is recommended that the patient is transferred well before the onset of labour to a place were these facilities are available.

Such a practice will improve the anticipatory skills of the obstetrician with improved maternal and fetal outcome.