

DELIVERY BY CAESAREAN SECTION

DEFINITION:

A caesarean section is a form of childbirth in which a surgical incision is made through a mother's abdomen (laparotomy) and uterus (hysterotomy) to deliver one or more babies. The commonest uterine incision is the lower segment incision. A caesarean section may be done electively or as an emergency procedure

RECOGNITION OF THE COMMON INDICATIONS FOR WHICH CAESAREAN SECTION MAY BE REQUIRED

- Indications which can be recognized in the antenatal period
 - Malpresentations
 - Antepartum haemorrhage
 - Previous caesarean section
 - Previous surgery on the uterus
 - Bad obstetric history
 - Fetal macrosomia
 - Feto-pelvic disproportion (Short stature / High presenting part)
 - Intra-uterine growth restriction
 - Patients where labour induction is required like Pre-eclampsia , Gestational diabetes, Post datism, Premature rupture of membranes (These patients would require management by the Gynaecologist at CHC / Distt hospital)
- Indications which may develop during labour
 - Fetal distress
 - Dysfunctional / Prolonged labour
 - Malpresentation recognized during labour
 - Obstructed labour
 - Cord prolapse
 - Complications like eclampsia

DIAGNOSTIC CRITERIA, INVESTIGATION, TREATMENT & REFERRAL CRITERIA

LEVEL 1: AT SOLO PHYSICIAN CLINIC:

Clinical Diagnosis: No delivery at this level

Recognize high risk pregnancies (as outlined above) for referral to the centre where emergency surgical facilities available. Prepare families for possible blood donation where caesarean delivery anticipated

Patients in labour should not be given solid food.

Investigations: The diagnosis would be mostly by history and clinical examination. However following lab investigation facility should be available:

- Hb
- Blood gp & Rh

Treatment:

IV life line with ringer lactate / isotonic glucose saline

Oxygen inhalation by oxygen cylinder / concentrator in cases of fetal distress while the patient is being transferred to higher center.

Referral Criteria:

- Encourage institutional deliveries & refer high risk pregnancies (as outlined above) to the centre where emergency surgical facilities available i.e. Level III or IV

LEVEL 2: AT 6 - 10 BEDDED PRIMARY HEALTH CENTRE:**Clinical Diagnosis:**

Monitor labour with partogram to identify labour abnormalities earlier.

Rest same as Level 1

Investigations: Same as Level 1

Treatment: Same as Level 1

Referral Criteria:

Same as Level 1

All labour patients being monitored with partogram who show labour abnormality should be transferred to level III or IV.

LEVEL 3: AT 30 - 100 BEDDED COMMUNITY HEALTH CENTRE

Clinical Diagnosis: Same as Level 1

Investigations: Hb, PCV, Blood gp & Rh, Urine analysis

Treatment:

- Emergency caesarean section can be performed at CHC.
- Regional / general anaesthesia
- IV fluids: Ringer lactate / isotonic glucose saline
- Oxygen inhalation by oxygen cylinder / concentrator in fetal distress.

Operative details of Lower segment caesarean section:**Patient Preparation**

- Informed consent for the surgery and anaesthesia
- Part preparation (Abdomen, lower back, pubis)
- Intravenous (IV) line to be secured with Ringer lactate @ 10 - 20 drops / minute
- Urinary bladder catheterization
- Pre-op medication
 - Parenteral H2 blocker: Inj Ranitidine 50 mg IV stat
 - Anti-emetic: Inj Metoclorpromide hcl 10 mg IV stat
 - Antibiotics: Inj Ampicillin 1.0 grams IV stat
- Blood tests
 - Haemoglobin
 - Urinalysis
 - Blood crossmatching

Operation

- Anaesthesia
 - Spinal
 - Epidural
 - General

- Painting & Draping of operative area
- Abdominal incision
 - Supra pubic transverse
 - Infra umbilical vertical
 - Joel Cohen incision
- Uterine incision
 - Lower segment transverse
 - Midline vertical (Classical) - rarely indicated
- Extraction of baby (Uterine incision-delivery time - 90 sec is recommended)
- Inj Pitocin 5 Units IV slowly / Inj Prostodin 125 mcg IM stat
- Removal of placenta
- Suturing of uterus in two layers
- Closure of abdominal wall in layers

Post-operative period

- Care given to any new mother plus care given to any patient recovering from major surgery.
- Monitoring
 - Vital parameters
 - Urine output
 - Haemorrhage
- Prophylactic antibiotics: for eg Inj Cefotaxim 1.0 gram IV stat (Single dose starting at the time of surgery or continued for three doses)
- Pain medication: Diclofenac Sodium suppository 100 mg stat / SOS
- Fluids & diet
- Ambulation at appropriate time 24 hours after surgery
- Avoid lifting anything heavier than the baby.

Advice and Follow-up

- Breast feeding to initiate within 1 hour of delivery
- Tab Iron 50 mg / day, Tab Folic acid 5 mg / day for 3 months and Tab Calcium 1000 mg / day supplement to continue till breast feeding
- Avoid sexual intercourse for six weeks
- Avoid lifting weights heavier than baby for six weeks
- Review of patient after six weeks
- Contraception advice in post partum period: Condom, IUCD (Copper T), Minipills after 6 weeks

Referral Criteria:

- Recognize High risk obstetric patients likely to be delivered by Elective Caesarean section to be transferred to District Hospital or Tertiary Hospital
- Patients with post operative complications of caesarean section like sepsis, secondary haemorrhage, wound dehiscence should be referred to level IV i.e. Distt hospital / Tertiary hospital

LEVEL 4: AT 100 OR MORE BEDDED DISTRICT HOSPITAL

Clinical Diagnosis: Patient selection on basis of

- Transferred in cases from Solo physician clinic, PHC & CHC for Elective CS
- Antenatal period
 - Indication for Elective CS
- Ultrasound for confirmation of
 - Placental localization
 - Presentation of the baby
 - Estimation of Fetal weight
 - Color Doppler studies
 - Gestational age
- During Labour
 - Monitoring of mother with partogram
 - Clinical examination for
 - Progress of labour
 - Lie
 - Presentation
 - Check the amniotic fluid for meconium
 - Recognition of fetal distress with intermittent auscultation / electronic fetal monitoring

Availability of blood and blood component transfusion facilities

Availability of neonatal intensive care management facilities

Management of anaesthetic complications

Management of post operative complications of caesarean section like sepsis, secondary haemorrhage and wound dehiscence

Investigations:

- Same as Level 3
- Rapid Test Kit for biochemical investigations
- X Ray Chest PA
- Renal Function Test
- Blood Culture
- Urine Culture
- Antibiotic Sensitivity Test
- Peripheral Blood Smear
- Liver Function Test
- USG Obstetrics with color doppler facility
- PTTK
- APTT

Treatment: Performance of Elective / Emergency caesarean sections with facility of neonatal support system

Operative details of Lower segment caesarean section: Same as Level 3

SUGGESTED READING

1. Williams Obstetrics. Eds Cunningham F G, Gant N F, Leveno K J et al. 22nd Edn. 2005.
2. Manual of obstetrics. Eds Shirish N Daftary, Sudip Chakravarti. 2nd Edn. 2005.