Complications of Cesarean Deliveries

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Short-term Risks of Cesarean Delivery

- Maternal Death
- Thromboembolism
- Hemorrhage
- Infection
- Incidental Surgical Injuries
- Extended Hospitalization.
- Emergency Hysterectomy.
- Pain
Long-term Risks of Cesarean Delivery

- Readmission to the Hospital.
- Pain
- Adhesion Formation.
- Infertility/Subfertility
Risks for the Newborn of Cesarean Delivery

- Neonatal Death.
- Respiratory Difficulties.
- Asthma
- Iatrogenic Prematurity.
- Trauma.
- Failure to Breastfeed.
Risks of Cesarean Delivery to Future Pregnancies

- Uterine Rupture.
- Abnormal Placentation.
- Hysterectomy
Intraoperative complications

- **Haemorrhage**: a consequence of damage to the uterine vessels.
- Incidental as a consequence of uterine atony or placenta praevia.
- In patients with an anticipated high risk of haemorrhage blood should be routinely cross-matched.
manoeuvres to manage haemorrhage;

- oxytocin infusion,
- administration of prostaglandins,
- bimanual compression
- conservative surgical procedures such as uterine compression sutures
- the more radical, but life-saving, hysterectomy.
Caesarean hysterectomy

- The most common indication for caesarean hysterectomy is uncontrollable maternal haemorrhage → 1 in 1,000 deliveries.
- The most important risk factor for emergency postpartum hysterectomy is a previous caesarean section – especially when the placenta overlies the old scar, increasing the risks of placenta accrete.
- Other indications for hysterectomy
  1- atony
  2- uterine rupture
  3- extension of a transverse uterine incision and fibroids preventing uterine closure and haemostasis.
Placenta praevia

- The proportion of patients with a placenta praevia increases almost linearly after each previous caesarean section

- Placenta previa-accrete
  - First cesarean birth, 3 percent
  - Second cesarean birth, 11 percent
  - Third cesarean births, 40 percent
  - Fourth cesarean births, 61 percent
  - Fifth or greater cesarean birth, 67 percent
Organ damage

- Bowel damage may occur during a repeat procedure or if adhesions are present from previous surgery.
Postoperative complications

- Infection
- Venous thromboembolism
- Psychological
Infection

- Women undergoing caesarean section have a 5–20-fold greater risk of an infectious
- Labour, its duration
- the presence of ruptured membranes appear to be the most important risk factors
- obesity playing a particularly important role in the occurrence of wound infections.
- most important source of microorganisms responsible for post-caesarean section infection is the genital tract, particularly if the membranes are ruptured preoperatively.
- Even in the presence of intact membranes, microbial invasion of the intrauterine cavity is common, especially with preterm labour.
- Infections are commonly polymicrobial and pathogens isolated from infected wounds and the endometrium include Escherichia coli, other aerobic gram-negative rods and group B streptococcus.
Complications include fever, wound infection, endometritis, bacteraemia and urinary tract infection.

Another possible causes postoperative fever: include haematoma, atelectasis and deep vein thrombosis.

**The prevention of any surgical infection include:**

1. careful surgical technique and skin antisepsis
2. prophylactic antibiotics should be administered to reduce the incidence of postoperative infection.
Deaths from pulmonary embolism remain an important direct cause of maternal death, and caesarean section is a major risk factor. The incidence of such complications can be reduced by adequate hydration, early mobilization, and administration of prophylactic heparin. Early recognition and prompt initiation of treatment will reduce the consequences of venous thromboembolism.
All difficult deliveries carry increased maternal psychological and physical morbidity. The psychological wellbeing of women delivered by emergency caesarean section may be compromised by delayed contact with the baby.
Subsequent birth following caesarean section

- Caesarean section rates for primigravida are 20–30%.
- Historically they believed that ‘once a caesarean, always a caesarean; but actually up to 70% of women with a previous caesarean section who labor achieve a vaginal delivery.
- Elective repeat caesarean section (ERCS) as compared to attempted vaginal birth after caesarean section (VBAC).
- From a maternal perspective, ERCS avoids labour with its risk of pelvic floor trauma (urinary and faecal problems), the need to undergo emergency caesarean section and scar dehiscence or rupture with subsequent morbidity and mortality. However, ERCS carries maternal risks: increased bleeding, febrile morbidity, prolonged recovery, thromboembolism, long-term bladder dysfunction and increased risks of placenta previa in subsequent pregnancies. From a fetal perspective, ERCS reduces the risk of scar rupture, but increases the risk of TTN (Transient tachypnea of the newborn) /respiratory distress syndrome.
Uterine rupture and dehiscence

* A dehiscence is a frequently asymptomatic separation and is found incidentally at the time of repeat cesarean or on palpation after a vaginal birth.

* Uterine rupture: sudden separation of the uterine scar and expulsion of the uterine contents into the abdominal cavity. Fetal distress is usually the first sign of rupture, followed by severe abdominal pain and bleeding.
Uterine rupture

- Nonsurgical complete disruption of all uterine layers, including the serosa, which usually leads to bleeding and extrusion of all or part of the fetal-placental unit.

- It is a life-threatening pregnancy complication for both mother and fetus.

- Other adverse outcomes include complications related to severe hemorrhage, bladder laceration, hysterectomy, and neonatal morbidity related to intrauterine hypoxia.

- Most uterine ruptures in resource-rich countries are associated with a trial of labor after cesarean delivery (TOLAC).

- In resource-limited countries, many uterine ruptures are related to obstructed labor and lack of access to operative delivery.
Clinical manifestations of uterine rupture

- Fetal bradycardia
- Variable or late decelerations
- Maternal hypotension/shock
- Vaginal bleeding
- Cessation of contractions
- Loss of station/fetal presenting part
- Abdominal pain