

'Obstetric complications: Part 3'

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Obstetric complications: Part 3

- ▼ **Post-term pregnancy**
- ▼ **Oligohydramnios and Polyhydramnios**
- ▼ **Puerperal pyrexia**
- ▼ **Placental abnormalities**
- ▼ **Twin pregnancy and delivery**

POST – TERM PREGNANCY

- ▼ Post – term pregnancy
- ▼ Post – dates pregnancy
- ▼ Prolonged pregnancy
- ▼ Will cover 40-42 as well as 42 and above

POST – TERM PREGNANCY

- ▼ This is the pregnancy beyond 40 weeks.
- ▼ Low risk women should be given chance for spontaneous labour.
- ▼ About 80% of women in this group go into spontaneous labour within 7-10 days the c/section rate is about 15% whereas in those that do not go into spontaneous labour and require induction the c/section rate is about 35%.
- ▼ Induction of labour is recommended from 41-42 weeks (NICE).
- ▼ Gradual and significance increase in stillbirth rate from 40-43 weeks: 0.9/100 ongoing pregnancies at 40 weeks vs 2.1/1000 at 43 weeks.
- ▼ "Low risk" women are advised to delay IOL until 41+6 weeks. Those women declining IOL at 41+6 will be advised of the increased risk of stillbirth beyond 42 weeks.

POST – TERM PREGNANCY

- ▼ Women are assessed:

- ▼ U/S for AFI, Dopplers – and if not done recently: growth and placenta (over-) maturity

- ▼ CTG

- ▼ Vaginal examination

- ▼ Vaginal sweep is offered (7 women having sweep 1 will avoid induction).

- ▼ A plan is made: re-assessed in few days versus IOL.

- ▼ High risk pregnancies should have individualised plan of IOL or elective c/section based on their indication.

POST – TERM PREGNANCY

- ▼ **Prolonged pregnancy** is defined as the pregnancy beyond 42 weeks.
- ▼ Incidence: is between 3-10%. It is 40% if had occurred previously.
- ▼ Need to ensure the dates are correct – LMP based on regular cycle and from scans.
- ▼ There are risks to both the mother and the fetus.

POST – TERM PREGNANCY

▼ **Prolonged pregnancy** – maternal risks:

- ▼ Anxiety and psychological burden
- ▼ Increased intervention: IOL, operative delivery hence increased risk of genital tract trauma

▼ **Prolonged pregnancy** – fetal risks:

- ▼ Intrapartum death – risk 4x
- ▼ Early neonatal death – risk 3x
- ▼ Meconium aspiration and assisted ventilation
- ▼ Oligohydramnios
- ▼ Macrosomia, shoulder dystocia and fetal injury
- ▼ Fetal distress in labour
- ▼ Neonatal: hypothermia, hypoglycaemia, polycythaemia, growth restriction

Amniotic Fluid (AF) abnormalities

- ▼ Oligohydramnios – reduced AF
- ▼ Polyhydramnios – increased AF

Amniotic Fluid

- ▼ AF is largely consists of fetal urine
- ▼ The volume depends on urine production, swallowing and absorption
- ▼ Normal volume varies with gestation
- ▼ The volume is measured by u/s (AFI, deepest vertical pool)

Oligohydramnios (OH)

- ▼ Volume depends on the gestation
- ▼ General rule: OH= AFI <8 or deepest pool <2cm
- ▼ Causes:
 - ▼ Spontaneous rupture of membranes
 - ▼ Reduced fetal urine production
 - IUGR
 - Fetal renal failure or abnormalities
 - Post-dates pregnancy
 - ▼ Obstruction of fetal urine output / renal tract e.g. posterior urethral valves

Oligohydramnios - complications

- ▼ Preterm ROM – preterm delivery and/or associate infections
- ▼ IUGR – fetal / neonatal mortality and long term morbidity
- ▼ Reduced volume –
 - ▼ Lung hypoplasia (if <22wks)
 - ▼ Limb abnormalities e.g. talipes

Oligohydramnios - investigations

- ▼ Speculum examination to assess for ROM
- ▼ USS of fetus
- ▼ If suspected ROM: vaginal swabs, FBC, CRP

Oligohydramnios - management

- ▼ SROM > 37 weeks – delivery (IOL or c/s if indicated by another reason)
- ▼ SROM < 37 weeks
 - ▼ Prophylactic oral erythromycin
 - ▼ Assess for infection (temperature, bloods)
 - ▼ CTGs
 - ▼ Elective delivery 34-37 weeks depending the risk factors and other findings e.g IUGR
 - ▼ Delivery <34 weeks if indicated e.g. suspected infection

Polyhydramnios (PH)

- ▼ General rule: PH= AFI >22 or deepest pool > 8cm
- ▼ Causes:
 - ▼ Idiopathic – usually mild
 - ▼ Increased fetal urine production
 - Maternal diabetes (GDM)
 - Twin-twin transfusion syndrome (TTTS) – recipient twin
 - Fetal hydrops
 - ▼ Fetal inability to swallow or absorb AF:
 - GI obstruction (upper GI atresias, tracheoesophageal fistula)
 - Neurological or muscular abnormalities (anencephaly, myotonic dystrophy)
 - Rare abnormalities: e.g. facial obstruction

Polyhydramnios - complications

- ▼ Preterm delivery – due to uterine stretch
- ▼ Malpresentation at delivery – due to increase room at delivery
- ▼ Maternal discomfort because of abdominal distension

Polyhydramnios - investigations

- ▼ Exclude maternal diabetes with GTT
- ▼ USS of fetus

Polyhydramnios - management

- ▼ It depends on the associate fetal abnormality if present (fetal medicine team)
 - ▼ E.g. laser ablation of placental anastomoses vessels in TTTS
- ▼ Amnioreduction if massive PH causing discomfort
- ▼ Antenatal steroids if considering preterm delivery
- ▼ Unstable or transverse lie at term admit to hospital and c/s if labours

Puerperal pyrexia

- ▼ It's defined as the presence of maternal fever $\geq 38^{\circ}\text{C}$ in the first 14 days after delivery
- ▼ Incidence: has fallen to 1-3%
- ▼ mid 1930s: the most common cause of death - >40% of all maternal deaths

Puerperal pyrexia – genital causes: predisposing factors

▼ Antepartum

- ▼ Anaemia
- ▼ Duration of membrane rupture

▼ Intrapartum

- ▼ Prolonged labour
- ▼ Bacterial contamination during vaginal examination – multiple examinations
- ▼ Instrumentation
- ▼ Trauma: episiotomy, vaginal tears, c/s
- ▼ Haematoma

Puerperal pyrexia – genital causes: symptoms

- ▼ Fever
- ▼ Foul bloody discharge
- ▼ Subinvolution of uterus
- ▼ Tender bulky uterus on examination

Puerperal pyrexia – non genital causes

▼ Breast: mastitis, abscess

- ▼ Following breast engorgement

- ▼ Incidence 15%

- ▼ Symptoms: painful and hard breast

- ▼ Treatment: antibiotics and abscess drainage; breast-feeding should be continued

▼ UTI: E.Coli, Proteus, Klebsiella

- ▼ Following catheterisation, examinations and birth trauma

- ▼ Incidence 2-4%

- ▼ Symptoms: frequency, dysuria, urgency, rigors (pyelonephritis)

Puerperal pyrexia – non genital causes

▼ Thrombophlebitis

- ▼ Following venous stasis during superficial or deep venous thrombosis
- ▼ Symptoms: painful swelling leg, calf tenderness
- ▼ Treatment: LMWH, stockings, anti-inflammatory meds

▼ Respiratory: mainly c/section patients

- ▼ Following atelectasis, aspiration, bacterial pneumonia
- ▼ Symptoms: frequency, dysuria, urgency, rigors (pyelonephritis)
- ▼ Treatment: antibiotics, physio

Puerperal pyrexia – non genital causes

- ▼ **Abdominal wound infection:** c/section patients
 - ▼ Incidence 6%, <2% if prophylactic antibiotics are given
 - ▼ Risk factors: obesity, diabetes, corticosteroid therapy, wound haematoma

Puerperal pyrexia – Investigations

- ▼ Blood test: FBC, CRP, cultures
- ▼ MSU
- ▼ Cultures
 - ▼ Vaginal + cervical swabs (chlamydia and bacterial)
 - ▼ Wound
 - ▼ Throat
 - ▼ Sputum
- ▼ Chest X-ray

Puerperal pyrexia – Management

▼ Supportive:

- ▼ Analgesics and NSAIDs
- ▼ Wound care if infected
- ▼ Ice packs for pain (perineum, breast)

▼ Antibiotics: broad spectrum until sensitivities done

▼ Surgical:

- ▼ Breast abscess: incision and drainage
- ▼ Pelvic haematoma and abscess: drainage
- ▼ Wound dehiscence: secondary repair

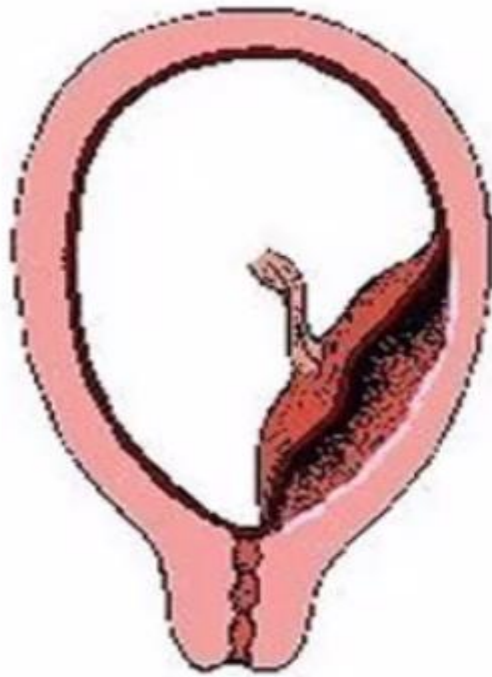
Placental abnormalities

- ▼ The placenta function is well known not only for the exchange of oxygen, CO₂ and nutrients but also for its endocrine function.
- ▼ It has the fetal and the maternal surface and the fetoplacental and uteroplacental circulation.
- ▼ Abnormal placentation occurs in 1:7000 pregnancies.
- ▼ It is commoner in those who had c/section in the past.

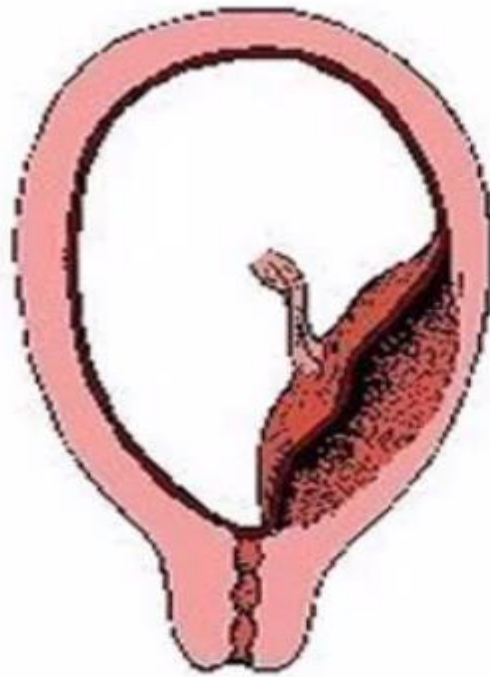
Placental abnormalities

- ▼ It is normally separated from the myometrium by the decidua basalis.
- ▼ If the decidua is abnormal the villi may invade further through the uterine wall.
- ▼ There are 3 types:
 - ▼ **Placental accreta:** placental villi are attached to the myometrium
 - ▼ **Placental increta:** villi invade into the myometrium
 - ▼ **Placental percreta:** villi pass through the myometrium up to the serosa, potentially involving other viscera (bladder or bowel)

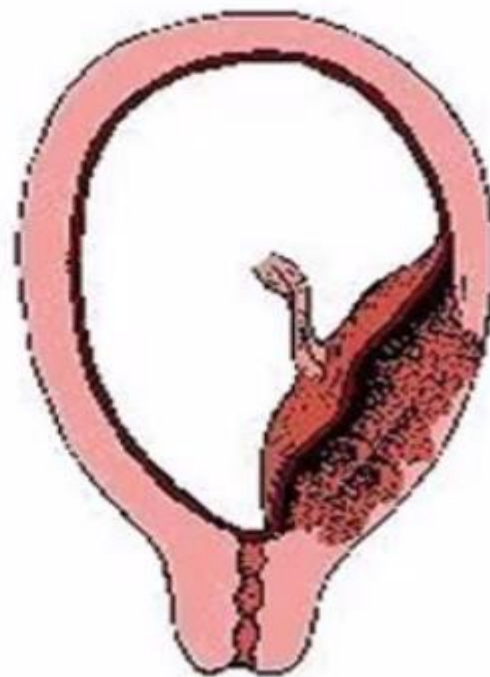
Placental abnormalities



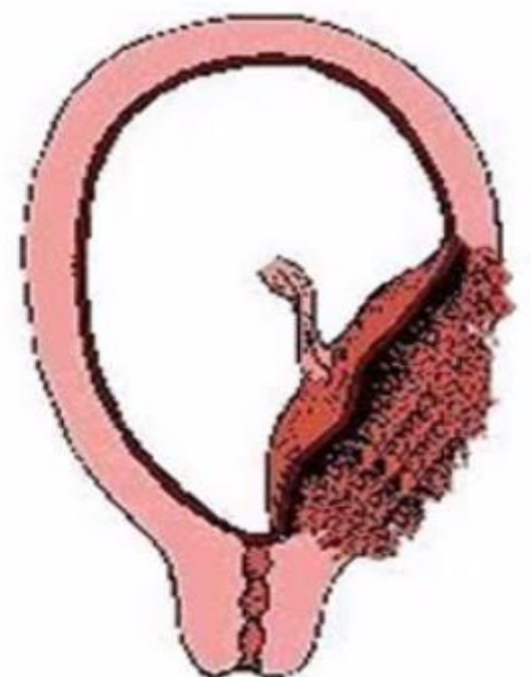
Normal



Accreta



Increta



Percreta

Placental abnormalities

- ▼ Risk factors for placental abnormalities:
 - ▼ Uterine surgery e.g. c/section, myomectomy
 - ▼ Repeated surgical TOP
 - ▼ Congenital abnormalities e.g. uterine septum or after its treatment

Placental abnormalities

▼ **Diagnosis:**

- ▼ At the scan antenatally and at delivery.

▼ **Complications:**

- ▼ Postpartum haemorrhage

▼ **Management:**

- ▼ Blood transfusion, remove placenta, tamponade with a balloon (Bakri), hysterectomy

Twin pregnancy and delivery

Twin pregnancy

- ▼ **Incidence of multiple pregnancy (natural):**
 - ▼ Twins – 15:1000
 - ▼ Triplets – 1:5000
 - ▼ Quadruplets – 1:360000

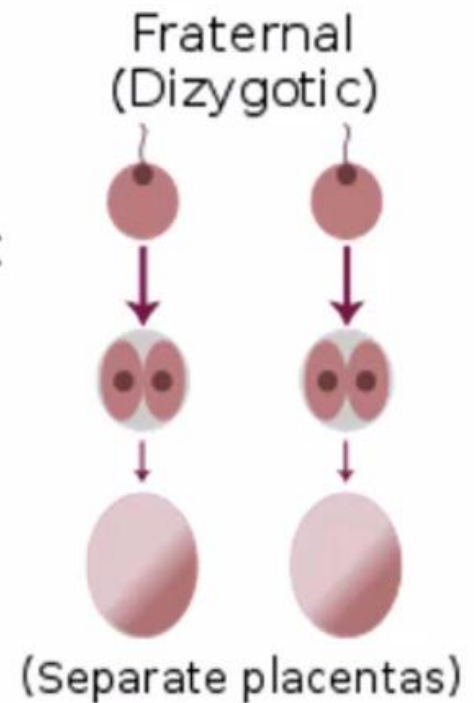
Twin pregnancy – predisposing factors

- ▼ Previous multiple pregnancy
- ▼ Family history
- ▼ Increasing parity
- ▼ Increasing maternal age
 - ▼ <20 yrs 6:1000, >35yrs 22:1000, >45 yrs 57:1000
- ▼ Ethnicity
 - ▼ Asia 7:1000, Africa 40:1000
- ▼ Assisted reproduction
 - ▼ Ovulation induction: 10-20%, IVF 2 embryo transfer: 20-30%

Twin pregnancy - types

▼ Dizygotic

- ▼ 2/3 of twin pregnancies
- ▼ 2 ova 2 sperms simultaneous fertilisation, implantation and development
- ▼ Separate amniotic membranes and placentas (DCDA)
- ▼ Can be same or different sex
- ▼ Age and ethnicity predisposing factors are affecting the most

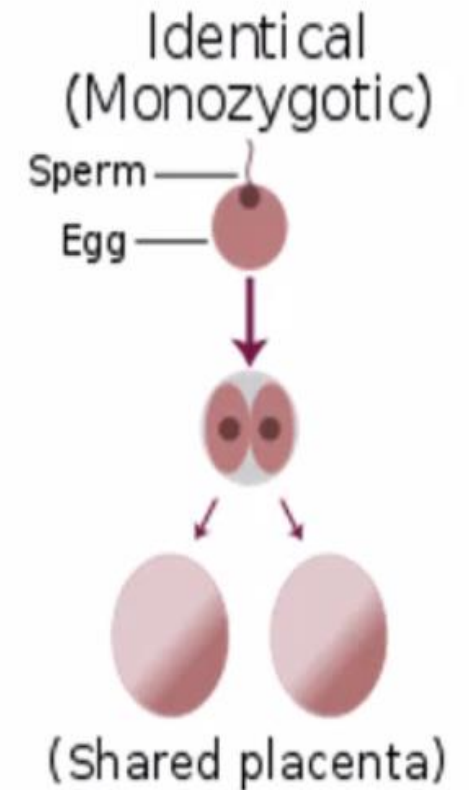


Twin pregnancy - types



▼ Monozygotic

- ▼ 1 developing embryo dividing into two
- ▼ Genetically identical
- ▼ Always the same sex (unless chromosomal anomaly to one)



Twin pregnancy - types

▼ Monozygotic

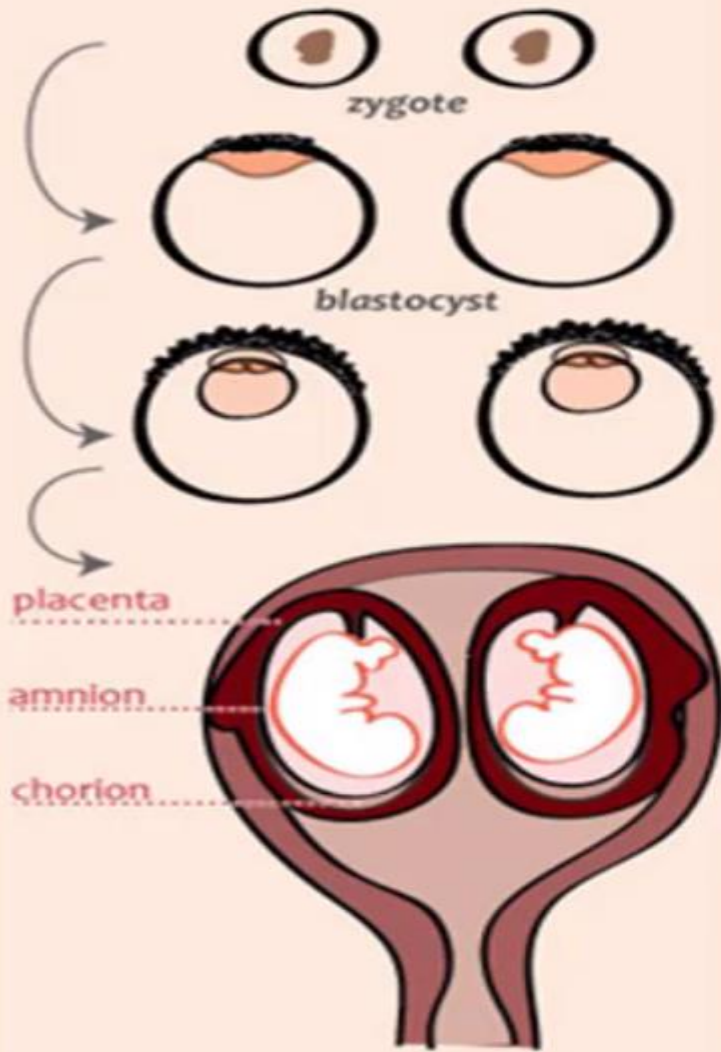
▼ The stage of development at the time of division will determine whether they share the same amniotic membrane and/or chorion:

▼ Timing of division in MZ twins

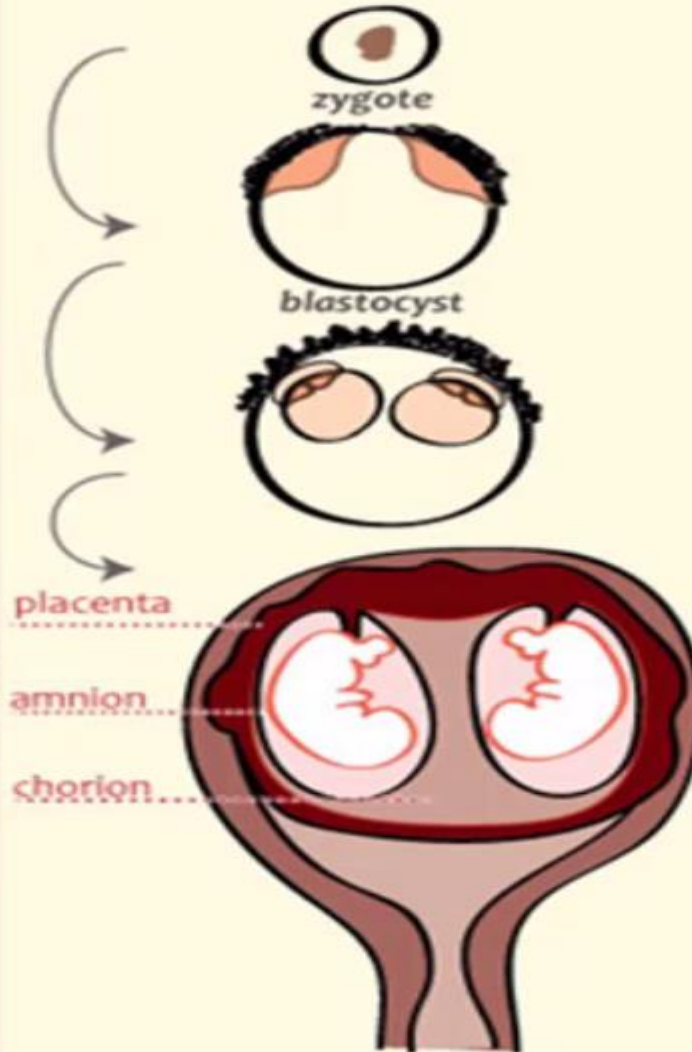
- <3 days – DCDA 30%
- 4-7 days – MCDA 70%
- 8-12 days – MCMA <1%
- >12 days – conjoint twins (very rare)

Twin Gestations

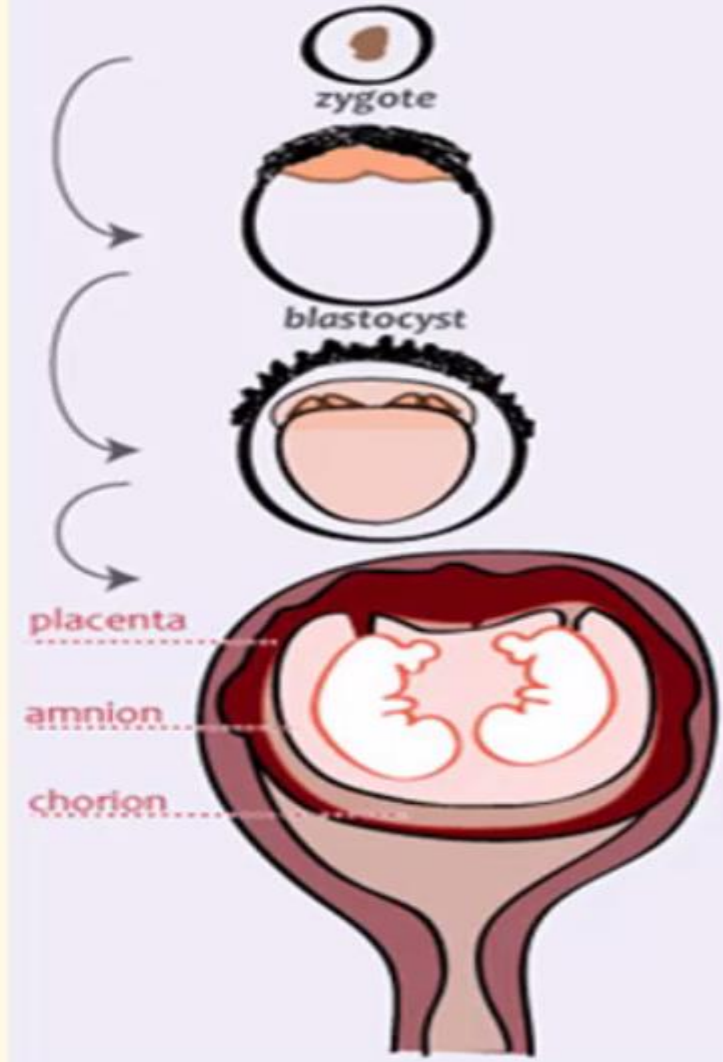
diamnionic dichorionic



diamnionic monochorionic



monoamniotic monochorionic



Twin pregnancy - types

▼ Assessment: symptoms, signs, diagnosis

- ▼ Increased vomiting in pregnancy, hyperemesis
- ▼ Uterus larger than expected size
- ▼ 2 fetal hearts on auscultation
- ▼ ultrasound is the tool for the diagnosis and the determination of chorionicity:
 - Obvious separated sacs or placenta: dichorionic
 - Membrane insertion showing lambda sign: dichorionic
 - Absence of lambda sign <14 wks : monochorionic
 - Different sex: dichorionic (dizygotic)



Twin pregnancy – fetal risks

- ▼ **Miscarriage** – especially with MC twins
- ▼ **Congenital abnormalities** (esp. MC): neural tube defects, cardiac and GI anomalies
- ▼ **IUGR** (up to 25% of twins)
- ▼ **Preterm delivery and associated morbidity/mortality** (eg cerebral palsy)
 - ▼ 40% of twins deliver before 37 wks
 - ▼ 10% before 32 wks
- ▼ **Vanishing twin syndrome** – 1 twin reabsorbed in 1st trimester

Twin pregnancy – fetal risks

	singleton	twins	triplets
↑ perinatal mortality	5:1000	18:1000	53:1000
↑ stillbirth	8:1000	31:1000	84:1000
↑ cerebral palsy	2:1000	7:1000	27:1000

Twin pregnancy – maternal risks

- ▼ Hyperemesis gravidarum
- ▼ Anaemia
- ▼ Pre-eclampsia (5x risk compared to singletons)
- ▼ Gestational diabetes
- ▼ Polyhydramnios
- ▼ Placenta praevia
- ▼ Antepartum and postpartum haemorrhage
- ▼ Operative delivery
- ▼ Postnatal depression (coping with >1 baby)

Twin pregnancy – twin-to-twin transfusion syndrome (TTTS)

- ▼ Blood from the 'donor' twin transferred to the 'recipient' twin due to aberrant vascular anastomoses in the placenta.
- ▼ Incidence: 5-25% of MC twins
- ▼ 80% mortality rate if untreated
- ▼ Acute or chronic progress – the latter more common
- ▼ Can lead to severe fetal compromise at a gestation too early to consider delivery

Twin pregnancy: twin-to-twin transfusion syndrome (TTTS)

▼ Effects of TTTS on the fetus

▼ DONOR TWIN

- Hypovolemic and anaemic
- Oligohydramnios
- Growth restriction (IUGR)

▼ RECIPIENT TWIN (usually in more risk than the donor)

- Hypervolemic, polycythaemic
- Large bladder, polyhydramnios
- Fetal hydrops : ascites, pleural + pericardial effusion

Twin pregnancy - management

- ▼ Considered as “high risk” – consultant led care
- ▼ Early scan to establish chronicity is essential
- ▼ Routine use of iron and folate supplements
- ▼ Serial 4-weekly scans
- ▼ More frequent antenatal visits because of risk of PET and GDM and TTTS in MC twins
- ▼ TTTS: laser ablation of the placental anastomoses

Twin pregnancy - management

▼ Mode and timing of delivery:

▼ Latest evidence suggest that is likely safer to deliver all twins by c/s

▼ DC: 37-38 wks, vaginal or c/s delivery -

- twin 1 should be cephalic
- maternal wish

▼ MC: 36-37 wks, mostly c/s

▼ Triplets and above: early c/s

Twin pregnancy - management

▼ Intrapartum risks:

- ▼ Malpresentation
- ▼ Fetal hypoxia in twin 2 after delivery of twin 1 needing c/s
- ▼ Cord prolapse
- ▼ Operative delivery (c/s, instrumental)
- ▼ Postpartum haemorrhage
- ▼ Cord entanglement (MCMA)
- ▼ Head entrapment with each other (locked twins)
- ▼ Intrapartum TTTS

Thank you

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