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Clinical Cases in
Obstetrics & Gynecology

SIXTH EDITION

Editor
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Foreword
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JAYPEE

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19 Special Cases

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POLYHYDRAMNIOS (HYDRAMNIOS)

It is defined as excess of amniotic fluid in the amniotic sac. Original definition of amount of liquor >2,000 mL is no more used now. Currently USG definitions are considered more appropriate. It affects 1–2% of pregnancies. It may be acute or chronic in onset.

Liquor is a straw colored, slightly alkaline fluid in the amniotic sac. It contains 99% water and 1% solids (glucose, proteins, ions, enzymes, hormones, etc.). Its source is fetal urine, secretion of amnion and transudation from maternal and fetal circulation. In normal pregnancy it is about 50 mL at 12 weeks, increases to 1,000 mL (average) at 34–36 weeks and then decreases to 600–800 mL (average) at 40 weeks.

Causes

Idiopathic is the most common cause.

Other causes are:

- Maternal diabetes.
- Multiple pregnancy (more in monozygotic).
- Fetal anomalies CNS (neural tube defects) and gastrointestinal (esophageal or duodenal atresia).
- Rh isoimmunization (hydrops fetalis), fetal anemia
- Viral infections like parvovirus B 19, rubella and cytomegalovirus[1]
- Placental chorioangioma is a rare cause.

Types

Acute

It is rare (2%). It usually occurs before 24 weeks. There is rapid accumulation of fluid over a short time. It usually occur in uniovular twins or some fetal malformation. Preterm labor before 28 weeks occurs in majority of cases.

Chronic

It is very common (98%). Usually it occurs in 3rd trimester.

Diagnosis

It is readily diagnosed by clinical features and USG.

Symptoms

Patient complains of undue enlargement and tenseness of abdomen. Patient is unable to lie comfortably in any position. There are pressure symptoms like dyspnea, varicose veins, piles and indigestion.

Signs

Uterus is large for date so fundal height and abdominal girth are increased. Uterus may be tense with fetal parts difficult to palpate in severe cases. Malpresentation are common. FHS are difficult to hear or muffled. Fluid thrill may be elicited.

Investigations

Blood sugar for diabetes.
Blood group for Rh isoimmunization.

USG: It not only confirms the diagnosis but also helps in ruling out anomalies and multiple pregnancy. At least one pocket of >8 cm in vertical depth is diagnostic. Amniotic

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fluid index AFI >24 is also diagnostic. By USG hydramnios is classified as shown in **Table 19.1**.

Complications

Apart from more chances of fetal anomalies some complications secondary to hydramnios can occur as follows:

- Malpresentation, unstable lie.
- Preterm labor.
- Uterine dysfunction in labor.
- PPH (atonic).
- PROM with risks of cord prolapse and accidental hemorrhage.

Management

- Treatment of the cause if possible, i.e., diabetes, Rh isoimmunization.
- Bed rest. Sedative may be given.
- Diuretics are unsuccessful and should never be used.
- If fetus is having lethal anomaly induction of labor is done.
- Amniocentesis (amnioreduction): In severe cases with maternal distress, drainage of amniotic fluid by transabdominal amniocentesis under USG guidance is done. Not more than 1 liter is removed at one sitting. It should be slow drainage by 18 gauze needle connected to IV set taking 4–8 hours. It may be repeated once or twice a week as necessary. It carries the risks of preterm labor and infection.
- Indomethacin therapy: Indomethacin tablets can be given 25 mg qid orally. It works by decreasing fetal urine production. It can cause closure of fetal ductus arteriosus and may cause fetal renal damage, so it is not routinely used. Only used for short period if there is polyhydramnios with preterm labor before 28 weeks of pregnancy.

Table 19.1: Degrees of hydramnios.

Hydramnios	Vertical pocket	AFI
Mild	8–11 cm	24.1–30 cm
Moderate	12–15 cm	30.1–34.9 cm
Severe	>16 cm	>35 cm

- In rare cause of chorioangioma direct injection of alcohol in the tumor to cause necrosis or laser photocoagulation of the tumor can be done.

OLIGOHYDRAMNIOS

It is traditionally defined as amount of liquor less than 500 mL at 32–36 weeks of gestation. As amniotic fluid volume depends on the gestational age; the best definition may be AFI less than the fifth percentile. Now USG definitions are more appropriate: Single deepest pocket (SDP) of less than 2 cm or amniotic fluid index (AFI) of less than 5 cm is considered as oligohydramnios.

In late pregnancy daily about 1,000 mL fluid flow in the amniotic cavity and same amount flows out. Major source of inflow is fetal urine and major outflow is by fetal swallowing.

Incidence: 5%. With sonography routinely done in third trimester without thorough evaluation the incidence is now increasing.

Causes

- Fetal anomalies:
  - Genitourinary: Renal agenesis (Potter's disease), obstructive lesions to urinary outflow tract, multicystic dysplastic kidneys.
  - Chromosomal: Triploidy, trisomy 18.
  - Others: Skeletal, cardiac, CNS or multiple.
- Post-term pregnancy.
- IUGR.
- Placental insufficiency, e.g. severe preeclampsia, advanced diabetes class F or H.
- Undetected PROM.
- Drugs: COX inhibitors can cause oligohydramnios.
- It can be idiopathic in some cases.

Diagnosis

It hardly causes any maternal symptoms. Patients may complain of less enlargement of uterus.

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On examination uterus is small for date, uterus feels full of fetus (in IUGR cases fetus is also small). Confirmed diagnosis is by USG. No pocket of 2 cm or more is diagnostic.

AFI 5 or less is other diagnostic parameter on USG. In USG, due to less liquor fetal anomaly may be difficult to diagnose due to poor visualization.

Fetal urinary tract anomaly and pulmonary hypoplasia are better diagnosed by MRI.

Complications

Apart from more chances of congenital anomalies problems secondary to oligohydramnios can occur as follows:

- Fetal distress
- Prematurity
- Pulmonary hypoplasia
- Fetal death
- Pressure effects: Talipes, dislocated hips, ankylosis of joints, intrauterine adhesions from skin to amnion causing constriction of limb or amputation.



- Potter's syndrome: In this, there is bilateral renal agenesis leading to severe early onset oligohydramnios. Pulmonary hypoplasia, clubbed feet and cranial anomalies commonly occurs. Fetus has typically flattened nose, recessed chin and low set ears.

Management

- Treatment of the cause if possible.
- Bed rest.
- Nutritious diet.
- Hydration—oral or IV. Increase in AFI up to 30% is reported. However, it is only temporary.[2]
- In idiopathic oligohydramnios amino acid infusion (e.g., alanine SN, hermin) IV thrice a week is found useful. If may be repeated after 3–4 weeks if necessary. It is assumed that it works by nitric oxide donors which causes vasodilatation and improves circulation. Amino acids by promoting fetal growth increases fetal urine formation and infusion also partly works by hydration.
- Serial USG for monitoring growth, liquor volume and well being assessment.
- Induction of labor or elective CS when maturity is achieved.
- Prolonged labor is avoided and intensive fetal monitoring during labor is must.
- Induction of labor if lethal malformation is confirmed.
- Antenatal amnioinfusion: About 250–500 mL Ringer lactate may be injected under ultrasonic control transabdominally. It may be temporarily beneficial. It also helps in better USG studies in detection of anomalies. It is not supported by evidenced-based medicine (EBM).
- Amnioinfusion during labor is proved useful to prevent umbilical cord compression and it dilutes the thick meconium. It can rarely cause uterine hypertonus, placental abruption and chorioamnionitis.
- Fetal surgery: (1) In TTTs laser coagulation of communicating vessels or septotomy can be performed, (2) in lower urinary tract obstruction vesicoamniotic shunt can be performed. Open fetal surgery is still at research level.

INTRAUTERINE FETAL DEATH

Definition

Death of the fetus >20 weeks of gestation or >500 g weight is called IUFD. Simply "fetal death" refers to the death of a fetus before delivery whereas "stillbirth" refers to the delivery of a viable fetus born dead.

Late fetal deaths: >28 weeks of pregnancy.

Incidence

1–2% of live births.

Etiology

Idiopathic: In >20% cases cause is not known.

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A. **Maternal causes:**
- PIH—severe preeclampsia, eclampsia.
- Medical diseases—diabetes, chronic hypertension, chronic renal disease.
- Infections—syphils, TORCH infection, hyperpyrexia.
- Antiphospholipid syndrome, congenital thrombophilia
- Obstetric cholestasis
- Maternal trauma.

B. **Fetoplacental causes:**
- Placental insufficiency.
- Abruptio placentae.
- Chromosomal abnormality.
- Congenital anomalies.
- Postmaturity.
- Multiple pregnancy
- Immune (Rh) or nonimmune hydrops.
- Cord accidents.

Diagnosis

It is by clinical features and USG.

Clinical

Patient complains of absence of fetal movements. If IUFD is few days old breast size may diminish and colostrum secretion may start in some cases.

On examination uterus is small for date, fetal movements are not felt, FHS are not heard by stethoscope or not located even by Doppler. Uterus may feel flaccid or closely applied over crowded fetus.

Ultrasonography

It confirms the diagnosis by absence of cardiac activity. It can also help in finding out the etiology like anomaly, hydrops, abruption, etc. X-ray shows typical signs like overlapping of cranial bones (Spalding's sign), gas shadows in aorta (Robert's sign) and hyperflexion of fetus (Ball sign), but it is not done in present days as USG is readily available. If in doubt (obesity, abdominal scars, etc.) use of color Doppler helps.

Second opinion is important for medicolegal purpose and patient satisfaction.

Investigations

- ABO Rh—ICT if Rh negative.
- Coagulation studies to detect DIC.
- CBC as baseline study.
- Other investigations are to find out the cause of IUFD.
- VDRL.
- TORCH studies.
- Antinuclear antibody and lupus anticoagulant.
- Blood sugar and HbA_1c (glycosylated Hb) for diabetes.

Complications

Psychological: Emotional upset due to sudden or unexpected news of fetal death.

DIC: When dead fetus is retained in uterus for 3–4 weeks liberation of thromboplastin in general circulation causes disseminated intravascular coagulation.

Infection: Ascending infection of the dead tissues can occur particularly in cases of PROM. Gas gangrene was reported in the past.

In labor: Uterine inertia, retained placenta or PPH can occur.

Management

- Proper counseling and emotional support is must.
- Discuss with both the parents. Allow them to ask question and express their feelings. Tell them that it is misfortune, a destiny beyond anybody's control.
- Although about 80% go in labor within 2 weeks expectant treatment has no role in modern obstetrics. This is not because of the risk of DIC (rare before 3 weeks), but evaluation of macerated fetus is difficult for knowing the cause of death for future management. Also there is emotional stress of keeping the dead fetus in the womb. Patient and relatives consider it as poisonous.
- Induction of labor is planned if there is no urgency.
- Tab mifepristone 200 mg orally 36–48 hours prior to induction is recommended.[3]

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It increases the success rate of induction and also reduces the induction delivery interval.

- Tablet misoprostol 50 ug vaginally is started and repeated every 4 hourly. 100 ug can be used for earlier gestational age. Usually patient delivers in 2–3 doses or enters in active labor, then oxytocin drip is started.
- Misoprostol can be used in preference to prostaglandin E2 (endocervical gel) because of equivalent safety and efficacy with lower cost.
- In case of previous CS endocervical gel is used for ripening or if misoprostol is used lower dose is recommended. Mechanical methods, i.e., Foley's catheter can be used but there is risk of infection.
- ARM is avoided in early labor as it can lead to ascending infection except in abruption.
- Antibiotics covering anaerobic organisms is given in labor.
- Active management of third stage of labor is done.
- LSCS is rarely required for obstetric indications.
- Unless there are preexisting maternal disorders maternal complications are rare in IUFD cases.

At birth: Complete evaluation is must:

- *Newborn:* Color, malformation, maceration, weight
- *Placenta:* Abnormality, staining, weight
- *Umbilical cord:* Knot, stricture, entanglement
- *Membranes:* Stained, thickening
- *Amniotic fluid:* Color, volume

Photograph of the dead newborn is taken. X-ray should be taken if structural malformation is suspected.

Ideally autopsy is advised. It should be done by expert. If patient and relatives refuse postmortem due to cultural or religious reasons MRI should be considered. Fetal blood or skin may be sent for chromosomal studies if indicated.

At least histopathological examination of placenta for infection, thrombosis and vascular malformations should be carried out.

- Psychological support in postpartum period is must as there is emotional stress and increased risk of depression. Patient is kept in non maternity ward.
- Suppression of lactation is done by cabergoline 1 mg single dose.

Dopamine agonists are contraindicated in hypertension or preeclampsia.

Future Pregnancy

- Six months contraception is sufficient. Do not delay pregnancy.
- There is increased chances of recurrence.
- Lifestyle modification, weight reduction, control of medical diseases, enough folic acid, genetic counseling, support and reassurance are important preconceptional measures.
- Fetal surveillance is started from 32 weeks in otherwise normal pregnancy and termination 2 weeks prior to previous unexplained fetal death is practiced.

ELDERLY PRIMIGRAVIDA

Definition

Primigravida with age >35 years is called elderly primigravida.

Such patients are increasing in present times due to higher education, late marriages, career issues and delaying first pregnancy after marriage.

Pregnancy

There is increased incidence of following:

- Abortion.
- Hyperemesis gravidarum.
- Preeclampsia.
- Chromosomal anomaly like trisomy 21 (Down syndrome-mongolism). Screening for Down syndrome is discussed in detail below.
- Placental insufficiency.
- Postdatism
- Age-related disorders like diabetes, essential hypertension, and obesity.
- Multiple pregnancy

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- Ectopic pregnancy.
- Antepartum hemorrhage

Labor

There is higher incidence of following:

- Premature labor.
- Incoordinate uterine action, uterine inertia.
- Occipitoposterior position.
- Rigid perineum
- Operative deliveries, i.e., cesarean section, forceps.
- Retained placenta due to uterine inertia, fibroid.

Puerperium

- Breastfeeding may be less successful.
- Maternal morbidity is slightly more due to antepartum and intrapartum problems mentioned above.

Management

- It is a high-risk pregnancy requiring special antenatal care.
- Frequent ultrasonography and other fetal surveillance tests are necessary.
- To detect chromosomal anomaly prenatal diagnostic tests apart from **USG,** i.e., **double marker** and **quadruple marker test** and **NIPT** are advised. Although NIPT is >99% sensitive confirmation is by chromosomal studies by chorionic villous sampling and amniocentesis.
- Proper reassurance during pregnancy and labor as these patients are very anxious.
- Vaginal delivery with proper intrapartum monitoring is done in absence of any abnormality. LSCS should be readily carried out when indicated.

Screening for Down Syndrome

First trimester risk assessment for Down syndrome incorporates maternal age, ultrasound measurements of the fetal **nuchal translucency (NT)** and determination of maternal serum free β-hCG and pregnancy associated plasma protein A (PAPPA) done between 11–14 weeks. **NT** and **B HCG** are increased and **PAPP-A** is lower in pregnancies with Down syndrome.

Other sonographic markers at 11–14 weeks are absence of **nasal bone, tricuspid regurgitation, abnormal ductus venosus wave form on Doppler studies and faciomaxillary angle more than 85°.**

With first trimester risk assessment by above parameters detection rate is 87%.

Second trimester quadruple marker test is slightly inferior. Quadruple test includes serum AFP, HCG, uE3 and inhibin estimation.

HCG, inhibin: Increases. AFP, uE3: decreases.

NIPT is new technique which detects fetal chromosomal abnormalities from maternal blood after 10 weeks of pregnancy by analyzing small amounts of fetal DNA circulating in maternal blood. It is >99% accurate.[4]

Apart from major structural malformations other sonographic markers for Down syndrome include shortened humerus or femur, an increased nuchal thickness, pyelectasis, echogenic intracardiac focus, hypoplastic fifth digit, sandal gap toe, echogenic bowel and widened iliac angle.

GRAND MULTIPARA

Definition

Patients with parity 5 or more are called grand multipara. Its incidence is decreasing now.

Pregnancy

There are increased risks of following:

- Abortion.
- Anemia.
- Pregnancy ailments like varicose veins, hemorrhoids.
- Multiple pregnancy.
- Malpresentation, unstable lie.
- Placental insufficiency.
- APH—placenta praevia as well as accidental hemorrhage.
- Due to increased age there are more chances of hypertension, diabetes and obesity.

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Labor

Risks are:
- Premature labor.
- Uterine inertia.
- Cephalopelvic disproportion (CPD) due to increasing size of the fetus, advancement of sacrum forward following subluxation of sacroiliac joint, osteomalacia, high inclination of pelvic brim.
- Rupture of uterus is a real danger.
- Cord prolapse due to malpresentation.
- Third stage complications like PPH, retained placenta and inversion of uterus.
- Precipitate labor.
- Genital prolapse, i.e., cystocele, rectocele obstructing delivery or cervical dystocia.

Puerperium

- Due to antepartum and intrapartum problems maternal morbidity is more, rarely mortality can occur due to atonic PPH or rupture uterus.
- Venous thromboembolism may occur.
- Uterine sub-involution

Management

- It is a high-risk pregnancy requiring good antenatal care.
- Early detection and adequate treatment of anemia and malnutrition which are usually present.
- Hospital delivery is must even if all previous deliveries are uneventful.
- Strict vigilance in labor for any complications and prevention and management of PPH if it occurs.
- Strong motivation for sterilization in puerperium.

TEENAGE (ADOLESCENT) PREGNANCY

Definition

Pregnancy in young girls of <19 years age. Although not permitted by marriage laws (age of female should be 18), cases still occur due to practice of early marriages prevalent in rural India.

Problems

There are higher chances of:
- Anemia—nutritional origin.
- Preeclampsia, eclampsia.
- IUGR.
- Genital tract lacerations during delivery are common.
- Preterm labor.
- Emotional upsets.
- Contracted pelvis if <16 years of age.
- If it is illegal pregnancy risk of criminal abortion remains.

Management

- It is high-risk pregnancy requiring proper antenatal care.
- Good psychological support and education to the patient is required.
- Contraception is advised during the puerperium for proper spacing.

  Under the Protection of Children from Sexual Offences Act (POCSO Act) 2012, all teenage pregnancies should be informed to police if the age of female is below 18 years even if it is by husband.

OBESITY

Definition

Body mass index (BMI) of >30 at the first antenatal consultation is considered obesity.

WHO classifies obesity as under?
- BMI <18.5 kg/m^2—underweight
- BMI 18.5–24.9 kg/m^2—normal
- BMI 25–29.9 kg/m^2—overweight
- BMI >30 kg/m^2—obesity
- BMI >35 kg/m^2—morbid obesity

According to revised consensus guidelines for Asian Indian women:[5]
- BMI <18.5 kg/m^2—underweight
- BMI 18.5–22.9 kg/m^2—normal
- BMI 23–24.9 kg/m^2—overweight
- BMI >25 kg/m^2—obesity

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Pregnancy

There is increased incidence of:

- Essential hypertension as well as PIH.
- Diabetes.
- Abortion
- Dyspnea on exertion.
- Mechanical discomfort.
- Skin disorders.

Clinical obstetric evaluation (palpation, auscultation) is difficult due to obesity.

Labor

There is increased incidence of:

- Incoordinate uterine action and uterine inertia.
- Fetal macrosomia requiring operative delivery.
- Shoulder dystocia.
- If LSCS is required due to any indication, obesity-related complications are encountered like wound complications, postoperative chest complications, venous thrombosis, veins are difficult to get for IV transfusion.
- Postpartum hemorrhage both atonic and traumatic.

Puerperium

- More chances of deep vein thrombosis.
- Inadequate lactation.
- Wound infection

Management

- Proper antenatal care with special watch on weight gain.
- High protein, low fat and low carbohydrate diet is advised.
- Abdominal examination is difficult. Sometimes exact presentation and FHS difficult to make out.
- Ultrasonography is frequently indicated to check normal progress of pregnancy and fetal well-being.
- In labor there may be difficulty in doing pelvic assessment and conducting delivery due to obesity but bony pelvis is usually normal.
- Bariatric surgery before pregnancy is advisable in morbid obesity. During pregnancy these patients can have deficiencies of vitamins or minerals. Vaginal delivery can be allowed if there are no other complications.
- Pregnancy itself does not make the woman obese. But whatever fat is gained during pregnancy may not be lost as altered circumstances like rearing a newborn may change her outlook. She is less conscious about herself and less serious about diet and exercises in the postnatal period.

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QUESTIONS

1. What are the secondary complications of polyhydramnios?
2. What are the secondary complications of oligohydramnios?
3. How will you manage oligohydramnios?
4. What are the causes of late intrauterine fetal death?
5. What are the secondary complications of IUFD?
6. What are the obstetric problems of elderly primigravida?
7. What are the obstetric problems of teen age primi?
8. What are the complications of obese pregnant patient during pregnancy and labor?

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Clinical Cases in Obstetrics & Gynecology

Clinical Cases in Obstetrics and Gynecology covers all obstetric and gynecological cases commonly asked in undergraduate (UG) and postgraduate (PG) practical examination. Topics are covered in a comprehensive yet-concise manner starting from etiology, clinical features, diagnosis, prevention and management including recent advances. Important and special points related to each case are given at the end of the chapter and common viva questions of that case are mentioned. The book is used by UG and PG students since last 20 years. In current edition 22 senior teachers from all over the country have contributed different chapters. It is an excellent compact revision book for the exam-going students.

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