

First ever book conceptualized for giving One Touch to Obstetrics and Gynecology by

Flowcharts • Tables • MCQs • One-Liners



ONE Touch Obstetrics & Gynecology



For NEET/NEXT/FMGE/INI-CET

Sakshi Arora Hans

Special Features

- Written and Compiled by a Leading Faculty and Subject Expert of OBG
- Enriched with Latest Updates up to March 2023
- Entire theory covered in just 200 pages in Flowcharts, Tables and One-Liners format
- **250+** MCQs of Recent Exams covered up to March 2023
- All important Images/Illustrations covered



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26. ABRUPTIO PLACENTA

History

Patient gives H/O Trauma or Has High BP

+ PAIN IN ABDOMEN
+ Bleeding P/V in T3

- Blood dark red in color
- Not recurrent
- No warning hemorrhage

Types

Abruption is premature separation of normally situated placenta:

1. **Revealed variety:** Whatever bleeding occurs = Comes out
2. **Concealed type:** Blood collects in uterus behind placenta giving rise to couvelaire uterus (Bruised uterus) (Image 36)
3. **Mixed type (M/c)**

P/A Finding

- Ht of uterus > POG
- Uterus is tensed tender and rigid
- FHS = Not heard
- Fetal part: Not palpable

BLEEDING IN LATE PREGNANCY: ABRUPTIO PLACENTA:

PAGE = Classification

GRADEO = Retrograde

GRAD 1 = Pain + bleeding + FHS (N)

GRAD 2 = Fetal distress seen

GRAD 3 = Fetal death
maternal shock ± DIC seen

Placental separation releases Thromboplastin which initiates contraction + leads to DIC

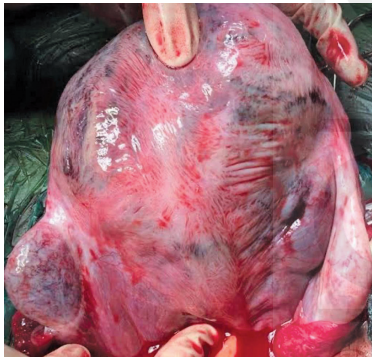


Image 36: Couvelaire uterus

P/V Examination

Not C/I in Abruption but should be done after ruling out previa

Investigation

TVS = Not diagnostic

- Abruption is a clinical diagnosis
- On TVS =
 1. See placenta in upper segment
 2. Retroplacental clot
 3. **Jello sign:** Shimmering of placenta on maternal movement.

Management

1. Abruption + fetal distress/maternal condition unstable: Emergency C/section
2. Abruption + fetal death + mother unstable or DIC = Emergency C/section
3. Abruption + fetal death + mother stable = IOL for vag delivery
4. Abruption + DIC: Correct DIC f/b C/section
5. Abruption + No emergency condition: If gestational age <34 weeks = Continue pregnancy
6. If gestational age ≥34 weeks = IOL f/b vaginal delivery.

Remember

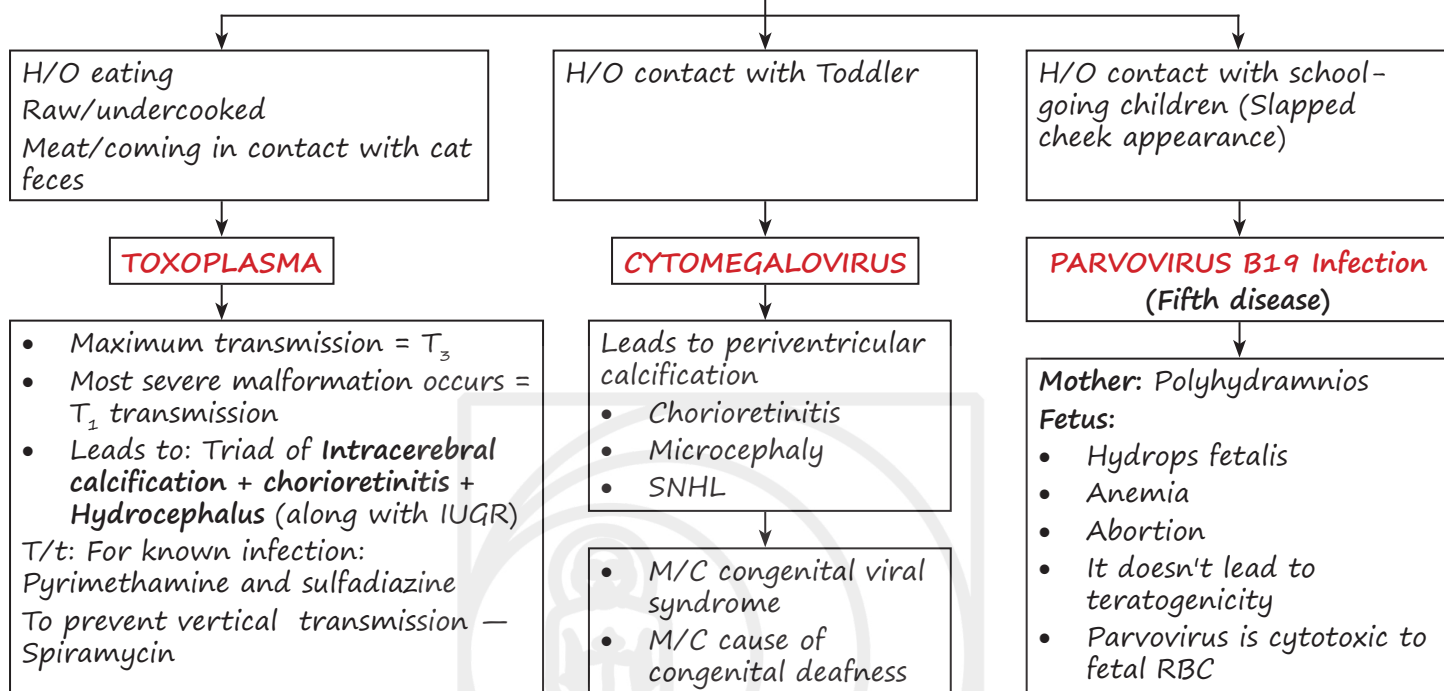
A patient of abruption may present as preterm labor

∴ whenever in a patient of PTL → uterus is tensed and tender always rule out abruption

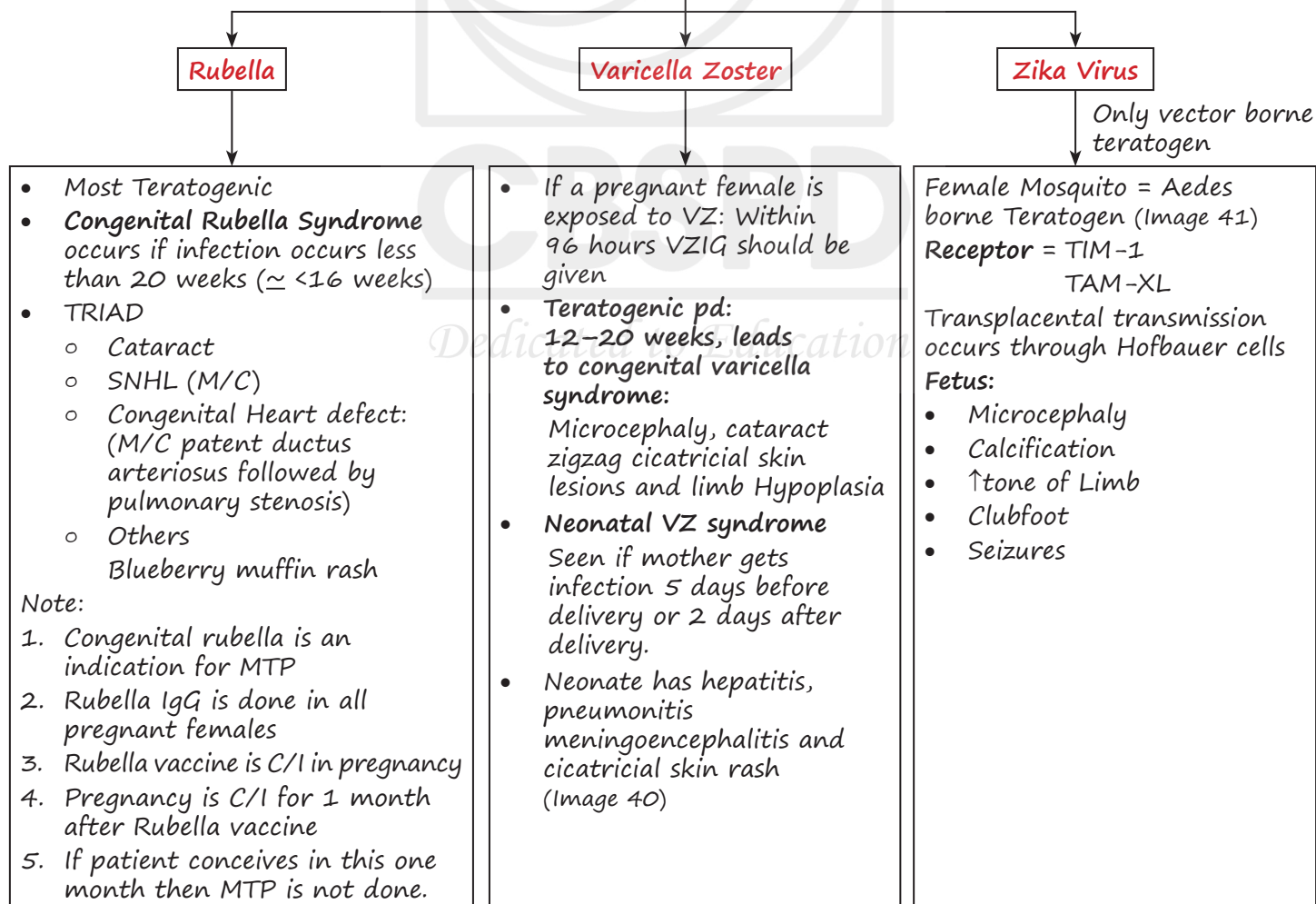
For obstetric causes of DIC and investigations done in DIC = See Table 5 and 6.

28. INFECTIONS IN PREGNANCY

Based on History of Patient



Infections in Pregnancy



Leopold Fourth Maneuver/Deep Pelvic Grip (Image 68)

Examiners hand on the pelvic area. Both hands are used and kept parallel to inguinal ligament.

It (1) Confirms finding of pawlik grip (2) Attitude of fetus.

Important Points

- To know head has entered the pelvis or not—Fingers of both hands are brought below the head.

If both hands converge: Below the head → means head has not entered the pelvis.

If both hands diverge: Means head has entered the pelvis.

46. SOME IMPORTANT CONCEPTS

True Labor Pain vs False Labor Pain

	True labor pains	False labor pains
1. Uterine contraction		
a. Nature	Regular rhythmic (On and off)	Irregular, continuous
b. Progressive	↑Intensity, ↑Frequency, ↑Contraction	It is not progressive
2. Cervical dilatation	Leads to progressive dilatation	Does not lead to dilation of cervix
3. Site of pain	Lower abdomen + Radiating pain to the thigh and back	Localised to abdomen
4. Show	Blood + mucus discharge seen	Absent
5. Bag of membranes	Felt	Absent
6. Relieved by	Not relieved by anything	Relieved with sedation and enema

Note:

Oxytocin → Produces rhythmic and regular contraction, and maintains polarity of the uterus → can be used in induction and augmentation.

Ergometrine on the other hand cannot be used as it doesn't maintain the polarity and cuts off blood supply to fetus.

Uterus Contractions

Begin @ cornua of uterus and spread to entire uterus at 2 cm/sec

Entire uterus is depolarized in 15 seconds

Adequate uterine contractions:

- 3 contractions in 10 minutes (Frequency).
- Each contraction lasts for 45 seconds (Duration).
- Generating a pressure of 65–75 mm Hg or 200–250 montevideo (MV) units (Intensity).

Tachysystole: ≥5 contractions in 10 minutes.

Hyperstimulation: Tachysystole can cause fetal distress

Tachysystole can occur in spontaneous labor and with use of oxytocin or misoprost

On CTG: It appears as prolonged deceleration

Station of Fetal Head

- It is described with respect to its position above or below ischial spine
- If fetal head is above ischial spine: Positive station
- If @ level of ischial spine = zero station

If below ischial spine: Negative station.

+2 means = 2 cm above ischial spine

−3 means = 3 cm below

Important Landmark Ischial Spine

- It is the site for internal rotation of fetal head
- Site for deep transverse arrest
- Site for giving pudendal block (ligament pierced while giving pudendal block is sacrospinous ligament)
- Origin of levator ani muscle

53. IMPORTANT POINTS RELATED TO THIRD STAGE OF LABOR

Important points related to third stage of labor

Who recommends:

Active management of third stage of labor (AMTSL)

- It decreases the duration of third stage
- Decreases blood loss
- Decreases chances of PPH
- AMTSL is the best method to prevent PPH

Steps in AMTSL

1. Inj. uterotonic within 1 minute of delivery of baby or immediately after delivery of anterior shoulder of baby (most imp step)
2. Delayed cord clamping (clamping cord in 1–3 mins of delivery)
3. Delivery of placenta by controlled cord traction (Modified (Brandt Andrews technique)
4. Intermittent assessment of uterine tone (earlier: uterine massage)

Note: Early cord clamping is not a part of AMTSL

Uterotonics

Recommended by WHO:

Oxytocin: 10 IU I/M or in infusion
If oxytocin is not available following can be given

1. Methyl ergometrine: (methergine) 0.2 mg I/M
Never given I/V as it can lead to hypertension
2. Syntometrine: Fixed dose combination of 5U oxytocin and 0.5 mg methyl ergometrine
3. Carbetocin- Synthetic oxytocin 100 mcg Slow IV
4. Misoprost PGE 1
600 mcg oral, sublingual or P/V for AMTSL (400–600 mcg)
WHO recommends misoprostol distribution to pregnant females to prevent PPH

Conditions of early cord clamping

(clamping cord within 1 minute of delivery)

1. Birth asphyxia
2. If neonatal resuscitation is needed
3. K/C/O congenital heart disease
4. If in RH negative female: Indirect coomb's test is negative (nonisoimmunized pregnancy)
HIV + pregnant females (as per NACO guidelines) but ACOG : Delayed cord clamping

In case of RH negative pregnancy: If indirect

Coombs test is positive, where maternal antibodies are already formed against fetal Rh antigen, early cord clamping is of no use: **Delayed cord clamping**

In preterm infants.

In COVID 19 + patients.

In macrosomic babies.

In post term cases.

Delayed cord clamping

All you need to know on oxytocin

- Natural oxytocin is nonapeptide
 - Synthesized by para ventricular nucleus of hypothalamus
 - Stored in posterior pituitary =
T_{1/2} = 3–5 mins
 - Can be given = I/M or I/V infusion
 - Never given as I/V bolus as it leads to hypotension/cardiac arrest
 - Infusion should be prepared in RL and not D-5% as it can lead to water intoxication
 - It is the Hormone responsible for milk ejection
- Note: In all those conditions where methylergometrine is C/I, oxytocin can be used

Carboprost = PG F-2d
is used for management
of PPH and not AMTSL

54. DRUGS USED IN AMTSL PPH

Methylergometrine

Leads to tetanic contraction of uterus

Can lead to hypertension

C/I:

T = After delivery of first twin

O = Organic heart disease

P = Preeclampsia

E = Eclampsia

R = Rh negative female

Relative C/I: HIV positive female on protease inhibitor

Prostaglandins

Misoprost (PGE₁)

Available as tablet

Routes: Oral/sublingual/P/R or P/V

Never: I/V or I/M

Water and heat soluble

Side effect: Hyperthermia

T 1/2 = 20–40 minutes

Carboprost: PGE₂ Dinoprost/hemabate:

Available as injection:

Route: I/M

Absolute C/I

- Asthmatics
- Pulmonary HT
- Suspected amniotic fluid embolism

Relative C/I = Preeclampsia, renal disease, liver disease

Side effect = Diarrhea

Carboprost: Is best drug to manage PPH but is not used for AMTSL

Carbetocin

Synthetic oxytocin analogue octapeptide

T 1/2 = 85–100 minutes

Dose = 100 mcg slow I/V

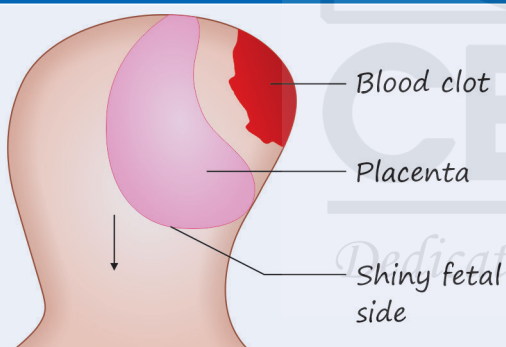
Syntometrine

5U oxytocin + 0.5 mg methylergometrine highly patient.

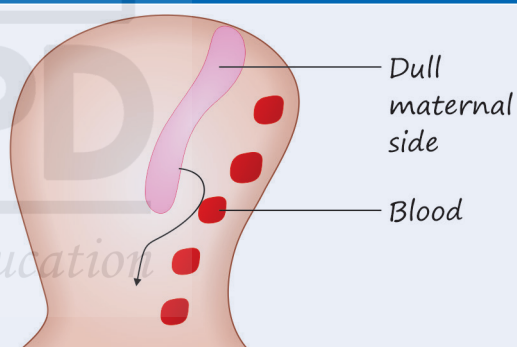
Not readily available, expensive

55. METHODS OF PLACENTAL SEPARATION

Schultz method



Duncan's method



Images 73: Methods of placental separation

<ul style="list-style-type: none"> • Placental separation begins from the center • Blood collects behind the uterus and bleeding is apparent only after complete separation of placenta • Formation of retroplacental clot • Total blood loss is less • Shiny fetal side presents at vulva (S for Shiny, S for Schultz) • M/C (seen in 80% cases) 	<ul style="list-style-type: none"> • It begins from periphery • External bleeding begins with separation • No retroplacental clot formed • Total blood loss is more • Dull maternal side presents at vulva (D for Dull, D for Duncan) • Seen in 20% cases
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Note: Separation of placenta is along parts of decidua (intermediate spongy layer of the decidua basalis)

Table 23: Important radiological signs in pregnancy

Sign	Significance
Bagel sign	Gestational sac in adnexa with a hyper echoic ring USG sign in Tubal ectopic
Intra decidual sign	1st USG sign of pregnancy
Double decidual sac sign	It indicates intrauterine pregnancy. Inner ring is decidua capsularis and outer ring — decidua parietalis.
Double bleb sign	It indicates intrauterine pregnancy. One bleb is for yolk sac and other for amniotic sac.
Lambda sign	USG sign seen in Dichorionic pregnancies. (d/t presence of chorionic tissue in between membranes of twins.
T sign	USG sign seen in monochorionic twins
Lemon sign	Frontal bossing seen in spina bifida
Banana sign	Abnormal anterior curvature of cerebellum d/t associated Arnold chiari malformation. Seen in spina bifida.
Clover leaf skull	Seen in craniosynostosis.

Table 24: Basics of placenta

Fetal side of placenta formed by =	Chorion Fundosum
Maternal side of placenta formed by =	Decidua Basalis
Primary villi =	Formed by D13 (only trophoblastic shell)
Secondary villi =	Formed by D16 (Has mesodermal core)
Tertiary villi =	Formed by D17 (Has fetal capillary)
Volume of blood in villi = (Fetal blood) =	350 mL
Volume of blood in inter villi space = (Maternal blood) =	150 mL
Volume of placenta @ term =	500 mL
Weight of placenta @ term =	500 gms
Ratio of weight of placenta: fetus =	1:6
POG at which weight of placenta = weight of fetus =	17 weeks
Maternal spiral A's open in IVS on =	D15
Utero placental circulation	<div> <div>established by = D17</div> <div>value = 500–750 mL/min</div> </div>
Fetoplacental circulation	<div> <div>established by = D15</div> <div>value = 400 mL/min</div> <div>Fetal blood flow @term = 125 mL/kg</div> </div>

Differential Diagnosis

	Fibroid	Polyp	Adenomyosis (endometrium inmigration)
Age	Reproductive age (25–35 years) Nulliparous females	Any age With increasing age, chances of polyp increase	≥40 years (4th–5th decade) Multiparous female
M/C complain	Heavy menstrual bleeding	In premenopausal/ Reproductive age: <ul style="list-style-type: none"> • Intermenstrual bleeding • Irregular bleeding 	M/C = HMB 2nd M/C = 2° dysmenorrhea Usually pt C/O both
Other	2° dysmenorrhea Infertility Pelvic pressure symptoms	In postmenopausal female: <ul style="list-style-type: none"> • Postmenopausal bleeding 	
P/A examination	Uterus is enlarged and irregular and may reach up to 20 weeks' pregnancy size	—	—
Gross appearance	Fibroid has a whorled appearance, white in color and is surrounded by a pseudocapsule <ul style="list-style-type: none"> • Blood vessels supplying fibroid are present in pseudocapsule • Cut surface: irregular/ uneven and arises from broad base (Image 122) 	Mucosal outgrowth <ul style="list-style-type: none"> • Fleshy, red in color • Has a smooth surface and hangs from a narrow base in uterine cavity (Image 123) 	<ul style="list-style-type: none"> • Symmetrically enlarged uterus = globular uterus cut surface shows multiple hemorrhages (Image 124)
P/V examination uterus:	<ul style="list-style-type: none"> • Enlarged • Irregular • Nontender 	<ul style="list-style-type: none"> • Normal in size • Anteverted 	<ul style="list-style-type: none"> • Size of uterus: 10–12 weeks pregnant size • Uterine tenderness present (Halban sign)
Adnexa:	—	—	<ul style="list-style-type: none"> • No adnexal mass • Adnexal tenderness may be present
IOC	USG For submucous fibroid: Saline infusion sonography (Image 125)	USG = 1st IX On USG: Feeder vessel sign seen (Image 126) IOC: Hysteroscopy Management: Endometrial Polyp: Removed by Hysteroscopic polypectomy Cervical polyp: Removed with a help of polypectomy hook	MRI <ul style="list-style-type: none"> • Junctional zone ≥12 mm in thickness

88. IMPORTANT IMAGES OF FIBROID, POLYP AND ADENOMYOSIS



Image 122: Cut surface of fibroid
Showing whorled appearance

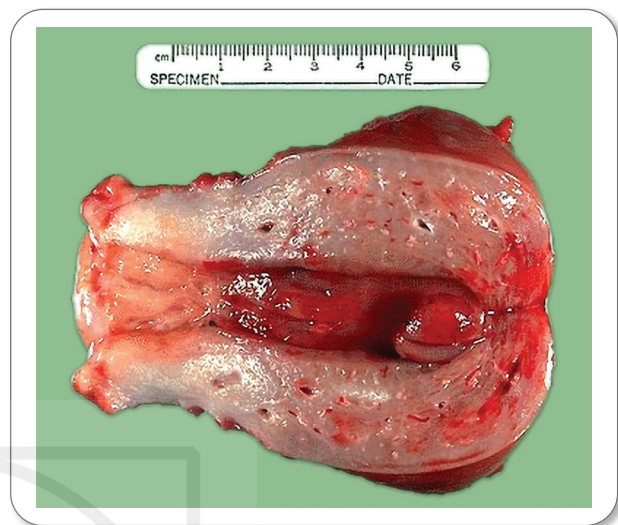
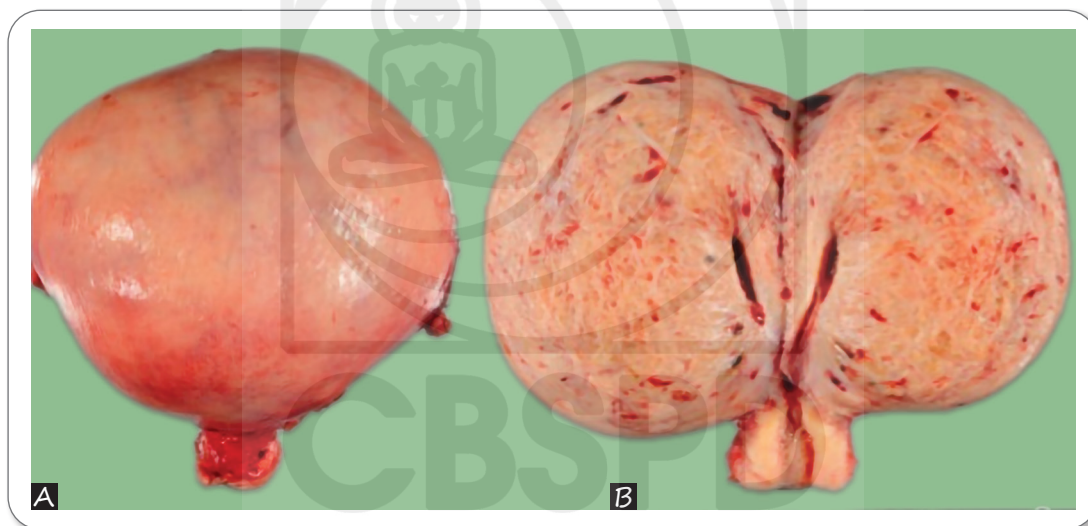


Image 123: Specimen of polyp
Red fleshy mass



Images 124A and B: A. Adenomyosis gross showing uniformly enlarged uterus;
B. Cut surface showing multiple haemorrhages

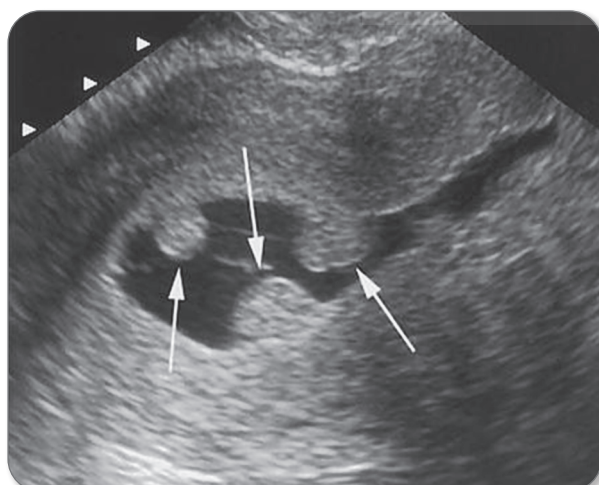


Image 125: USG of fibroid showing echogenicity same as myometrium and arising from broad base

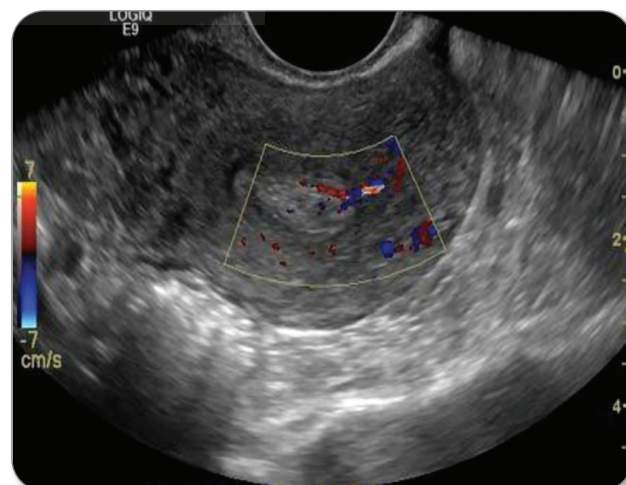


Image 126: USG of polyp: Showing feeding vessel sign



Image 127: USG image of adenomyosis:
Venetian blind appearance

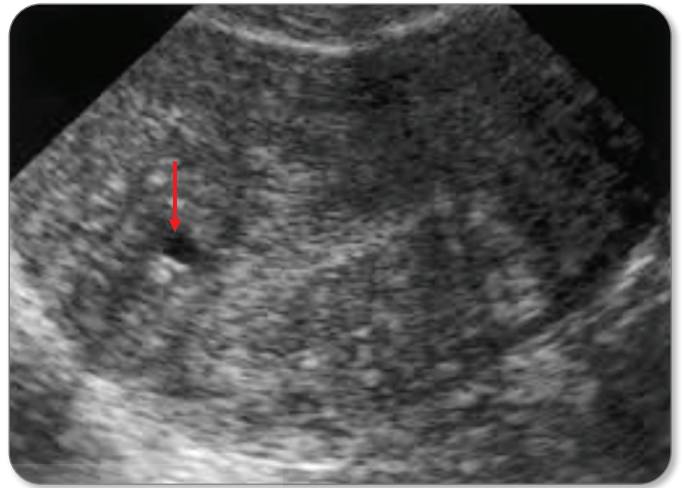


Image 128: USG showing myometrial cyst in
adenomyosis

Leiomyoma	Adenomyosis
Asymmetric enlargement of uterus	Symmetric enlargement/globular uterus
Nontender uterus	Tender uterus C/a Halban sign
Uterus is firm	Soft uterus
Menorrhagia is chief complaint	Menorrhagia with dysmenorrhea is chief presentation
Uterus can grow to huge size even up to 20 weeks pregnant uterus size	Uterus usually does not grow beyond 12 weeks size

USG Appearances of Adenomyosis

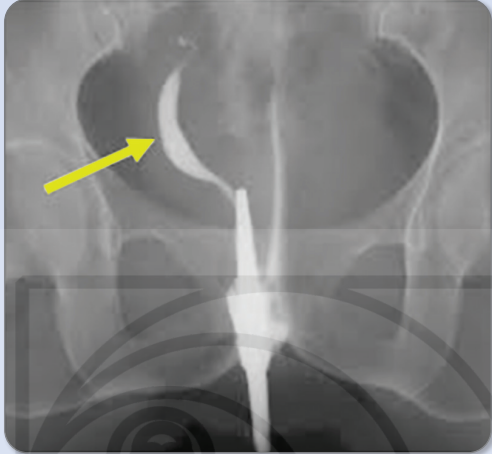
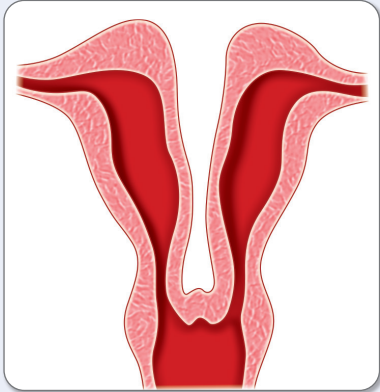

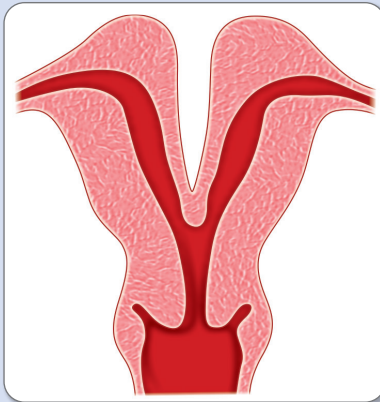
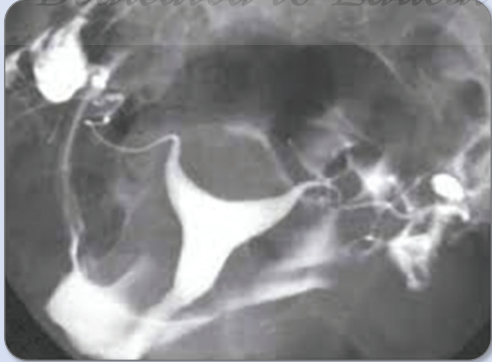
1. Asymmetrical myometrial thickness.
2. Myometrial cyst (blood collection in myometrium) (Image 128).
3. Myometrial island (large collection of blood).
4. Venetian blind appearance (Image 127).
5. Irregular junctional zone.
6. Increased vascularity of junctional zone.

- The only definitive diagnosis is by histologic confirmation of the surgically excised tissue.
- **Management:** Medical treatment includes the levonorgestrel (LNG)-releasing intrauterine system, which may decrease heavy menstrual bleeding.
- Surgery in the form of hysterectomy is the treatment of choice.

Diagnosis and Management of Adenomyosis

- USG or MRI imaging shows a diffusely symmetrically enlarged uterus with cystic areas found within the myometrial wall.

Mullerian Malformations

CLASS	HSG Image	Comment
Class I: Mullerian agenesis	—	<ul style="list-style-type: none"> Both MD Absent Ovary present as it arises from genital ridge
Class II: Unicornuate uterus	 <p>Image 151: Unicornuate uterus</p>	<ul style="list-style-type: none"> Single MD Single fallopian tube <p>On HSG</p> <ul style="list-style-type: none"> Single FT Half of uterus Half of cervix and Half of upper vagina Banana shaped uterus (Image 151)
Class III Uterus Didelphys	  <p>Image 152: Uterus didelphys</p>	<ul style="list-style-type: none"> Both MD are present but fail to fuse. Hence 2 vagina seen It is the only condition where 2 vagina are present Hence on HSG 2 Leech Wilkinson Cannula used (Image 152)
Class IV: Bicornuate Uterus (Grossly = fundus of uterus is divided into 2 parts)	  <p>Image 153: HSG of bicornuate Uterus</p> <ul style="list-style-type: none"> Angle between uterine horns: obtuse Distance between horns ≥ 4 cm 	<ul style="list-style-type: none"> MD Start fusing but fusion is incomplete. There are two uterine horns and single vagina. Cervix could be one or two <ol style="list-style-type: none"> If there is single cervix = Unicollis If 2 cervix = Bicollis

Contd...

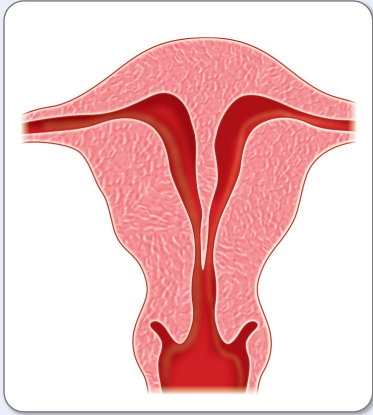

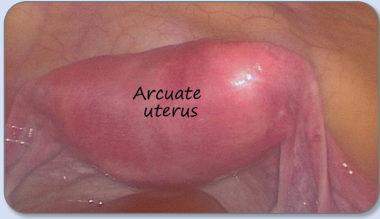

CLASS	HSG Image	Comment
<p>Class V: Septate Uterus (Grossly = fundus of uterus is not divided)</p>  <p>Note: Fundus of uterus fused in septate uterus.</p>	 <p><i>Image 154: Septate uterus</i></p> <ul style="list-style-type: none"> Angle between uterine horns: Acute Distance between horns <4 cm 	<ul style="list-style-type: none"> Both MD fuse Septa is formed But Septa fails to resolve There are 2 uterine horns and single vagina 1. On HSG: It is difficult to differentiate between septate and bicornuate uterus 2. To differentiate between them fundus of uterus should be visible <p>In bicornuate: Fundus is divided</p> <p>In septate: It is not divided</p>
<p>Class VI: Arcuate uterus</p>  <p><i>Arcuate uterus</i></p>	 <p><i>Image 155: Arcuate uterus</i></p>	<ul style="list-style-type: none"> Flat topped uterus or there is slightly dipped fundus Best reproductive outcome
<p>Class VII: In utero exposure to Diethylstilbestrol (DES)</p>		<ul style="list-style-type: none"> M/C malignancy a/w DES: Clear cell cancer of cervix and vagina M/C uterine malformation a/w DES: Hypoplastic uterus Most specific uterine malformation a/w DES: T shaped uterus DES exposure does not lead to renal anomalies in female fetuses.

Table 33: Absolute contraindication of OCPs

WHO Category 4:	
Mnemonic	Banks have various schemes to provide home loans during May.
Banks:	Known/suspected case of breast cancer.
Have:	Uncontrolled hypertension: severe ($\geq 160/110$) (Medically controlled hypertension, in a female who is nonsmoker, of any age: Not a C/I for OCPs).
Various	Undiagnosed vaginal bleeding.
Schemes:	Smoker ≥ 35 years of age.
To:	Known or suspected case of thromboembolism or family history of idiopathic thromboembolism in parent or sibling or h/o CVA/MI, or conditions predisposing to it (Risk factor for thromboembolism, e.g., malignancy, lupus anticoagulant present, prolonged immobility due to trauma or surgery → absolute contraindication).
Provide:	Pregnancy or h/o peripartum cardiomyopathy .
Home:	Severe hypercholesteremia, hypertriglyceridemia
Loans:	Presently impaired liver function/ liver cancer/acute or chronic cholestatic liver disease.
During:	Diabetes with vasculopathy
May:	Migrane with Aura.
OCP:	Also C/I in breast feeding and post partum females (<21 days)]

Table 34: LARC methods

Long Acting Reversible Contraceptives
1. Injection: DMPA
2. Implants
3. IUCD

Table 35: DMPA Injection

<ul style="list-style-type: none">Included in NFP by name of: - ANTARADose = 150 mgI/MRepeated every 3 monthsWindow period = 4 weeks
Method of Action: (Anovulation)
<ul style="list-style-type: none">Advantages<ul style="list-style-type: none">Decreases seizure frequencyDecreases sickling in SCADisadvantages<ul style="list-style-type: none">Delayed return of fertilityDecreased bone mineral densityLeads to irregular bleeding

Table 36: IUCD Generations

IUCD: Generations	
1st generation	Inert like Lippes Loop
2nd generation	Contain Cu - e.g., Cu T 380A (Image 165); multi load 375 (Image 166)
3rd generation	Contains progesterone MIRENA (Image 167); Progestasert (Outdated)

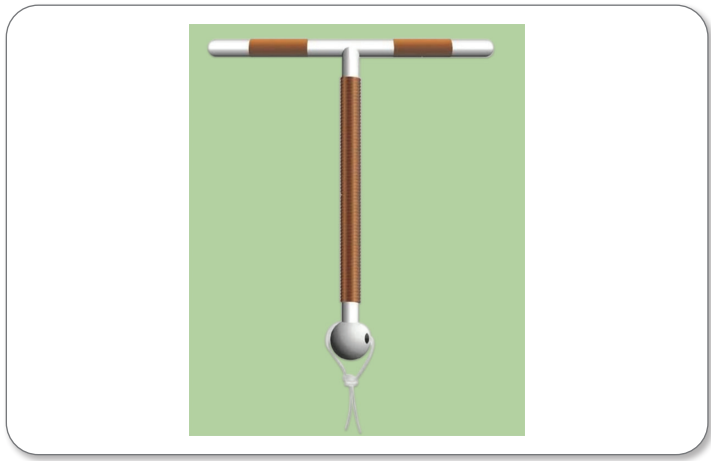


Image 165: CuT 380A

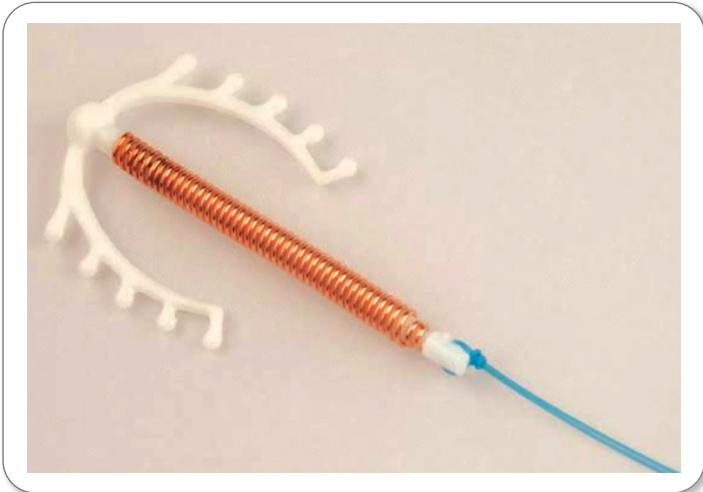


Image 166: Multiload 375



Image 167: Mirena

Table 37: Important IUCD

Important IUCD's	
1. Cu T 380A: PARAGUARD (Image 165)	<ul style="list-style-type: none"> • T shaped device • Has copper wire on vertical stem and horizontal arms (\therefore A) • Surface area of copper wire: 380 mm² (\therefore Number = 380) • Small ball which prevents perforation • Releases 50 mcg of copper/day • It can release Cu up to 12 years but approved life span is 10 years.
2. Multiload 375 (Image 166)	<ul style="list-style-type: none"> • Not T shaped and no copper on arms. • Arms are bent and have spurs on arms which lessens expulsion • Nylon thread present • Life span: 5 years
3. MIRENA/LNG IUCD (Image 177)	<ul style="list-style-type: none"> • Not copper containing • Contains progesterone = Levonorgestrel 52 mg. • Mirena releases 20 mcg per day (\therefore called as LNG-20 also.) • Releases LNG for 7 years but approved for life span of 5 years.

Table 38: Comparison of CuT 380 and Mirena

CuT 380	Mirena
• Acts by preventing fertilization	• Acts by preventing implantation
• Releases 50 mcg of Cu per day	• Releases 20 mcg of LNG per day
• M/C side effect is bleeding	• It helps in reducing bleeding so in pts of AUB it is used
• Increased risk of infection (PID) @ time of insertion	• Makes cervical mucus thick and decreases PID
• Causes Ect pregnancy incase failure occurs	• Chances of Ectopic pregnancy more if failure occurs
• Can be used as emergency contraceptive	• Cannot be used as an emergency contraceptive.

128. IMPORTANT INSTRUMENTS IN GYNAE



Image 186: Sims' speculum



Image 189: Uterine sound



Image 187: Cusco's speculum



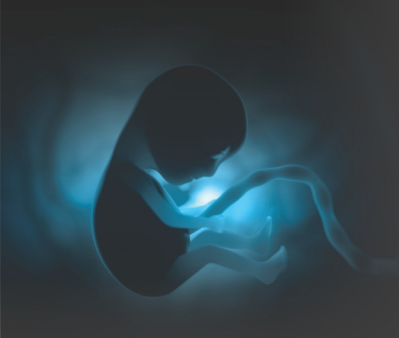
Image 190: Myoma screw



Image 188: Blunt and sharp curette



Image 191: Myoma clamp



ONE Touch Obstetrics & Gynecology



Salient Features

- **Theory**—A concise form of text (in 200 pages), and most important points to remember are given from the examination point of view. The text is designed in accordance with the recent CBME and NEXT exam curriculum.
- **High Yield Tables**—Frequently asked points and clinical correlates are tabulated for easy learning and more visual impact for long-term memory.
- **Clinical Images and Illustrations**—Clinical images and Illustrations are given along with their descriptions.
- **Previous Year Qs**—Important Topics/Qs have been highlighted in-between the text giving a glance over the important topics from exam point of view—questions have been asked from the respective topic in previous year examination.
- **Recent Questions**—Last 3 years' exam question papers up to March 2023 are provided to develop an idea about the trend of questions and also to know about the recently asked topics.

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