SURGICAL PROCEDURES IN GYNEC – OBS & ITS AYURVEDIC REFERENCES

A) AYURVED REFERENCES:

1) Consent :-
   - During admission to hospital, before starting any treatment, before any invasive procedures it is in nowdays well known practive. Also it has medicolegal importance. So consent itself has wide importance in our medical practice.
   - Our science also mentioned such kind of practice. Before treating a person , it was said that permission of that persons guardian is important.

“" तस्माद् अधिपतिम् आपृच्छय् परञ्च यत्नमास्थाय उपक्रमेत। " ..... सु.चि.१५/३

" तस्माद् ईश्वरं आपृच्छ्य परं च यत्नमास्थाय तद् विद्यसहितः तमुपक्रमेत्।
अक्रियायां ध्रुवं मरणम् उपक्रमे संशयः॥ " .... अ.सं.शा.४/३७

गर्भरुपी शल्य निर्हरण करण्यासाठी प्रथम अधिपति ला विचारुन त्याची संमती घेऊन स्त्रिला योग्य स्थितीमध्ये झोपऊन शल्यकर्म करावे. अशा मूढगर्भ अवस्थेत गर्भरुपी शल्यनिर्हरण न केल्यास स्त्रिचा मृत्यु होऊ शकतो.

आज्ञा कोणाकडुन घ्यावी : अधिपति, स्वामी, राजा, ईश्वर

2) Nil By Mouth before operation:
   - It is advised to patient not to take any solid or liquid food before surgery. The time differed as per the nature of surgery and anesthesia. Genrally patient is adived to avoid any food (solid / liquid) 6 to 8 hours before expected time of surgery.
   - However in emergency situation surgery can be performed any time with due precautions.
   - In our text similar description given before performing surgery.

"अन्यत्र मूढगर्भ उदर अश्मरी मुखरोगेभ्यः॥ " ..... अ.स.सू.३८

प्राक् शस्त्राच्छस्त्रकर्मणः पूर्वः मूढगर्भादिषु भोजनस्य प्रतिषेधः। ....इन्दु
मूढगर्भादौ भोजन मद्यपाने निषेधति-अन्यत्रेति-। .... हेमाद्रि

मुढगर्भ, उदर, अश्मरी, मुखरोग शस्त्रचिकीत्सेपुर्वी भोजन किंवा मद्यपान करु नये.

3) Sterilization of instruments:
   - Instruments used for any invasive or non invasive procedure even in OPD should be sterilized with proper method to avoid contamination.
   - Similarly in our science it is advised to heat the instrument in fire before any surgery.

   "अग्नितप्तेन शस्त्रेण......।"

4) **CESAREAN SECTION :**
   - Delivery of a baby through incision on abdomen and uterus.

Ayurveda:-

- Due to development of science cesarean section is routine procedure. In order save life of fetus and mother , procedure is carried out for obstetric indications.
- But in ancient times, the delivery of fetus through abdomen was indicated only in case when mother is about die but intrauterine fetus is alive, so in order to save fetus, it is indicated to deliver a fetus through abdominal incision.

"वस्तमारमिपन्नायाः कुक्षिः प्रस्पन्दते यदि।
तत् क्षणात् जन्मकाले तं पाटयित्वोद्धरेद् भिषक् ॥" .... सु.नि.५/१४

"बस्तिद्वारे विपन्नायाः कुक्षिः प्रस्पन्दते यदि।
जन्मकाले ततः शीघ्रं पाटयित्वोद्धरेत् शिशुम्॥" .... अ.हृ.शा.२/५३

" अभिघातान् मृतायास्तु गर्भः प्रस्पन्दते यदि।
जन्मकाले ततः शीघ्रं पाटयित्वोद्धरेत् शिशुम्॥" .... वङ्गसेन ३८/१९४)

जर गर्भिणी स्त्री ची अवस्था मरणासन्न बकरी प्रमाणे झाली असेल (वस्तमार) , स्त्री विपन्नावस्थेत असेल परंतु कुक्षि प्रदेशी गर्भस्पंदन जाणवत असेल तर उदर पाटण करुन बालक निर्हरण करावे. २ घटिका / १ मूहुर्तात जर उदर पाटण नाही केले तर बालकाचा देखिल मृत्यु होतो.

You have to write this reference while attempting question of LSCS.

5) **Cervical encirclage:**

- It is the surgical procedure carried out for the cervical incompetence during pregnancy.
- The purpose of procedure is to prevent abortion or premature delivery of fetus.

योनिव्यापत चिकित्सा वर्णन करताना चरकानी स्थानभ्रष्ट योनिचिकित्सा वर्णन केली आहे.

"................विवृतां परिवर्तयेद्।" ....च.चि.३०/४४

"परिवर्तयेद् इति परितो वर्तनेन संवृतां कुर्यात् ॥" .... चक्रपाणी

योनिमुख विवृत झाले असल्यास योनिच्या चारही बाजुने वर्तन करुन योनिमुख संकुचित करावे असा उल्लेख मिळतो. जरी हि चिकित्सा गर्भावस्थेत करावी असा प्रत्यक्ष उल्लेख नाही , तरी Cervical Incompetence मध्ये योनिमुख विवृतता आढळते व Encirclage मधे आपण योनिच्या चारही बाजुने स्टिच घेउन योनिमुख संवृत करतो. त्यामुळे सदर संदर्भ समजता येईल.

6) स्त्रीरोग अंतर्गत शल्यकर्म

" स्निग्धस्विन्नां तथा योनिं दुःस्थिता स्थापयेत् पुनः।
पाणिना नामयेज्जिह्मां संवृतां वर्धयेत् पुनः।
प्रवेशयेत् निःसृतां च विवृतां परिवर्तयेद्॥
योनिः स्थानापवृत्ता हि शल्यभूता मता स्त्रियाः॥" .... च.चि.३०

Most of gynecological surgical procedures can be covered under this reference by aacharya *Charak*.

स्वस्थानापासुन भ्रष्ट योनि हि शल्यभूत असते. जर औषधी चिकित्सेने उपशम मिळत नसेल तर अशा शल्यरुपी योनि मध्ये योग्य ते उपचार करावेत. तरिही उपशम नसेल तर शल्य आहरण तत्व समजुन योनिनिर्हरण (गर्भाशय निर्हरण) करावे.

दुस्थित योनि – Displacement of uterus e.g. Retroverted uterus, Prolapse of Uterus, Uterine inversion etc. या अवस्थेत योनिच्या पुनः स्वस्थानी स्थापन करावे, means repositioning of uterus with appropriate method.

Retroverted Uterus – Manual Repositioning ,Pessary treatment
Prolapse of Uterus – Pessary treatment, surgical procedure like Sling Operation
Inversion of Uterus – manual reposition or surgical procedure

संवृत - Cervial Stenosis, Vaginal stenosis, Vaginal atropy, Vaginal agenesis

- Basic principle of surgery is dialation of that organ.

विवृत - Cervical incompetence , lax vagina in multiparous woman
निसृत – Prolapsed uterus
शल्यभूत योनि - गर्भाशय निर्हरण/ Hysterectomy

FORMAT OF ANSWER WHILE ATTEMPTING QUESTION ON SURGERY

1) Mention ayurvedic reference for that surgical procedure.
2) Indications of Surgery
3) Contraindication
4) While writing Operative :-
   a) Preoperative –Preparation of patient, medication, Physician fitness, Investigation, Counselling, Informed Consent , NBM,
   b) Operative Procedure –
      i) Position of patient
      ii) Name of instruments used
      iii) Anesthesia type
      iv) Steps of operative
   c) Post operative care
   d) Complications of Operative procedure and its management
   e)

COMMON IMPORTANT PROCEDURES FOR EXAM

A) Obstetric :

a) **Cervical Encirclage**
b) **Episiotomy**
c) **Cesarean section**
d) **Female sterilization/ Tubal ligation**
e) **Dilatation & Evacuation**

B) Gynecology:

a) **Dilatation and Curettage**
b) **Hysterectomy**
c) **Hysterosalpingography**
d) **Cauterization of cervix (Garbhashay mukha Dahan Karm)**
e) **Female sterilization (Tubal Ligation)**

"NEVER WRITE ANSWER OF THIS TOPIC IN MARATHI OR HINDI"

" ALWAYS WRITE ANSWER IN ENGLISH. INSTEAD WHENEVER YOU ARE WRITING ANWER RELATED TO MODERN SCIENCE ALWAYS USE ENGLISH LANGUAGE"

QUESTIONS

1) **Garbhashay lekhan ahartha**
2) **Describe female sterilization (T.L.) procedure**
3) **Describe indication, preoperative and operative procedure of dilatation & Curettage.**
4) **Hysterosalpingography**
5) **Describe abdominal hysterectomy.**
6) **Indications of endometrial biopsy.**

ASSIGNMENT 4:

1) **HYSTEROSALPINGOGRAPHY**
2) **INDICATION OF CERVICAL CAUTERIZATION / GARBHASHAY MUKH DAHAN**

A) DILATATION & CURETTAGE :

गर्भाशय लेखन शस्त्रकर्म २ टप्प्यांमध्ये येते.

१) संवृतां च विवर्धयेत - गर्भाशय मुख विस्तृत केल्याने लेखनार्थ शस्त्र प्रविष्ट करण्यास सुलभ जाते.
२) लेखन कर्म - अष्टविध शस्त्रकर्मापैकी एक कर्म.

One of the meaning of Lekhan is :- "Scrap the unwanted tissue"

लेखन कर्म हे औषधांनी किवा शस्त्राच्या सह्याने करता येते. परंतु येथे शस्त्रच्या सह्याने लेखन कर्म अपेक्षित आहे.

कफ़प्रधान अवस्था, मांसदुष्टी, अर्श यांसारख्या व्याधिंमध्ये लेखन कर्म करण्यास सांगितले आहे. ज्यावेळी उपरोक्त अवस्था गर्भाशयात असेल तेव्हा गर्भाशय लेखन करता येईल.
उदा. Endometrial Hyperplasia - कफ़प्रधान, मांसदुष्टि अवस्था
Endometrial Polyp - अर्श

Procedure includes two parts: a) Dilatation of Cervical canal

b) Curettage/Scrapping of endometrial cavity

INDICATIONS:

DIAGNOSTIC INDICATIONS	COMBINED INDICATION	THERAPEUTIC INDICATION
Infertility	Endometrial Polyp	Endometrial Polyp
DUB	DUB	DUB
Pathological amenorrhoea		Incomplete abortion
Endometrial Tuberculosis		Removal of intrauterine devise
Endometrial Carcinoma		
Postmenopausal bleeding		
Chorionepithelioma		

PREPARATION;

1) Counselling of patient : about need of procedure, how the procedure is carried out, mode of anesthesia, emotional support
2) Investigations : CBC, Urine®, HIV, HBsAg, Blood group, USG(A+P)(if necessary)

3) Physician Fitness
4) Informed Consent
5) Preparation of perineal part – local shaving of pubic hairs
6) Medication : Sometimes prostaglandins like misoprostol used to facilitae medical dilatation of cervix. Tab. Misoprostol introduced in posterior fornix atleast before 3-4 hours of operation.
7) NBM – Patient is advised to be NBM for 6 hours if General anesthesia is used. If procedure is to be carried out under sedation , its not necessary.

Pre Operative medication :-

1) Tab Misoprostol can be used for same purpose
2) Inj. Atropin 1 ampule IM atleast Half hour before operation to avoid vasovagal shock

OPERATIVE:

Position of Patient – Lithotomy positon

Anesthesia – One of following can be used.

1) Sedation with Inj. Fortwin, Inj. Phenergan
2) Short General anesthesia
3) Regional anesthesia with paracervical block

Instruments Used with proper sterilization:

1) Sponge holder forceps
2) Sims speculum – single blade / double bladed
3) Anterior vaginal wall speculum
4) Vulsellum or Allies tissue holding forceps
5) Uterine sound
6) Cervical Dilators : eg. Hegar's dilators, HawkinetcAmbler dilator etc
7) Uterine Curreta – Blunt / Sharp
8) Suction cannula – Preferably Plastic cannula to minimize chances of injury
9) Suction machine (Nowadays MVA syringe (Manual Vaccume Aspiration Syringe) can be used for suction purpose)

Steps of operation:

1) Empty the bladder prior operation
2) Local cleaning with antiseptic solution like betadine, savlon
3) Draping with sterile towels
4) Bimanual examination done to confirm the position of uterus
5) Posterior vaginal speculum / Sims speculum introduced and retract to visualize cervix.
6) If cervix is not visualized anterior vaginal wall speculum introduced and retract to visualize cervix.
7) Once cervix visible, hold anterior lip of cervix with vulsellum or allies tissue forceps.
8) Stabilize cervix with little bit traction on instrument holding anterior lip of cervix.
9) Uterine Sound is introduced to confirm the position and to note the length of uterine cavity.
10) Cervical canal is dilated with graduated dilators.
11) Tip of dilators should pass beyond the internal os. Dilatation should done gently to avoid injury to cervix and uterus.
12) Starting with smaller size dilator, gradually dilate cervix till desired dilatation.
13) Curettage- after desired dilatation, uterine cavity curetted with uterine curette either in clockwise or anticlockwise direction with blunt or sharp curette
    - Sharp curette – for suspected benign lesion
    - Blunt curette – for suspected malignant lesion
    - Curettage should be gentle but thorough. Vigorous curettage may damage basal layer of endometrium.
    - Curetted material is stored in 10% formol –saline or Normal saline, labeled properly and send for histological examination.
14) Vulsellem / Allies tissue forceps and speculum are removed.
15) Look for any injury , active PV bleeding.
16) Vaginal canal cleaned with antiseptic liquid.

Post-Operative:

1) NBM till patient becomes conscious
2) Antibiotics
3) Observation for vitals like Pulse, Blood pressure, PV bleeding.
4) After passing of anesthetic effect patient discharged to home.

Complications:

IMMEDIATE	REMOTE
Injury to cervix	Cervical incompetence
Uterine perforation / Injury to uterus	Uterine synechie
Injury to Gut	Asherman's syndrome
Infection	

a) Immediate complication

i) Injury to cervix-
   - May be due to vulsellum or tear due to dilator
   - Generally leads to slight bleeding only which can be stopped by pressure gauze or hemostatic suture.
   - Rarely tear extends upwards to involve uterine artery. In such case laparotomy done to achieve hemostasis and resuscitation.

ii) Injury to Uterus / Uterine perforation-
   - May be due to Uterine sound, Cervical Dilator, Uterine Curette
   - More common in pregnant rather than in non-pregnant uterus.
   - Diagnosis of perforation:
     - Sudden loss of resistance over instrument
     - Passage of instrument more than length of uterine cavity
     - Undue mobility of instrument
     - Vaginal bleeding
   - Management:
     - Stop the operative procedure
     - Watch the vitals of patient like Pulse, BP, vaginal bleeding
     - Small perforation –
       - Generally managed by expectant management.
       - Give antibiotics
       - Can be managed with uterotonic like oxytocin, methargin, carboprost
       - If vitals normal, abodomen is soft patient can be discharged.
     - Large perforation –
       - Generally associated with internal hemorrhage
       - Laparotomy done to repair uterine rent and achieve hemostasis.

- Look for associated gut injury repair accordingly
- Hysterectomy may be needed in rare cases.

iii) Infection: Conservative treatment with antibiotics

b) Remote Complication:

i) Cervical incompetence:
- Due to injury to internal os of cervix
- May cause second trimester abortion in upcoming pregnancy.

ii) Uterine Synechie:
- Excessive curettage may result in injury to uterine muscles resulting in adhesions and secondary amenorrhoea. Condition called as 'Asherman's Syndrome'.

B) HYSTERECTOMY:

a) Ayurvedic references already given above.

Hysterectomy = Removal of Uteurs

Classification:

a) Depending of extent of removal of uterus & adjacent structures

Type	Structures Removed
Total Hysterectomy	Entire Uterus
Subtotal Hysterectomy	Body of uterus leaving behind cervix
Panhysteretcomy (Bilateral Salpingo-oophorectomy)	Uterus+both fallopian tubes+ both ovary
Extended Hysterectomy	Panhysterectomy + Cuff of vagina
Radical Hysterectomy	Extended hysterectomy + adjacent parametrium+ draining lymph nodes of cervix

b) According to approach / route of removal of uterus – Actually these are NOT types but routes of hysterectomy.

1) Abdominal Hysterectomy
2) Vaginal Hysterectomy
3) Laparoscopic assisted vaginal hysterectomy

INDICATIONS:

Benign Lesion	1) D.U.B.
	2) Uterine fibroid
	3) Tubo-ovarian mass
	4) Endometriosis
	5) Adenomyosis
	6) CIN
	7) Endometrial Hyperplasia
	8) Benign Ovarian tumors in perimenopausal age
Malignancy	9) Carcinoma – Cervix
	10) Carcinoma – Endometrium
	11) Carcinoma- ovary
	12) Uterine Sarcoma
	13) Choriocarcinoma
Traumatic	14) Uterine Perforation
	15) Cervial tear extending upwards
	16) Uterus rupture
Obstetrical	17) Atonic PPh
	18) Morbid adherent Placenta
	19) Hydatidiform mole > 35 years
	20) Septic abortion

Common Indication of Abdominal Hysterectom:

Total Hysterectomy	1) D.U.B
	2) Tubo-Ovarian Mass
	3) Uterine Fibroid
	4) Endometriosis
Subtotal	1) Difficult TO Mass
	2) Endometriosis invoving rectovaginal septum
	3) Obstetrics causes

Panhysterectomy	1) Indications for Total hysterectomy in perimenopausal age group
Extended hysterectomy	1) Carcinoma Endometrium
Radical hysterectomy	1) Carcinoma cervix-Stage I & II

PREPARATION;

1) Counselling of patient : about need of procedure, how the procedure is carried out, mode of anesthesia, emotional support
2) Investigations : CBC, Urine®, HIV, HBsAg, Blood group, USG(A+P), Others necessary investigations as per case
3) Physician Fitness
4) Informed Consent
5) Preparation of part – local shaving of pubic hairs and abdomen part below umbilicus
6) Bowel preparation with enema is indicated specially for laparoscopic procedure.
7) NBM – Patient is advised to be NBM for 12 hours.
8) Reserve blood bags after cross match.

OPERATIVE:

1) Instruemnts used:

Abdominal Hysterectomy	Vaginal Hysterectomy
Towel clip	Towel Clip
Sponge holding forceps	Sponge holding forceps
Blade Handle / Scalpel no.3	Blade Handle / Scalpel no.3
Artery tissue forceps	Artery tissue forceps
Allies tissue forceps	Allies tissue forceps
Self retaining abdominal wall retractor or right angle retractors or Devers retractors, Doyen's Retractor	Sims speculum, Right angle retractor, London's Retractor
Kocher's tissue holding forceps	Kochers's tissue holding forceps
	Vulsullum
Scissors (Mayo's / Metzenbaum)	Scissors (Mayo's / Metzenbaum)
Dissecting forceps (Plain / Toothed)	Dissecting forceps (Plain / Toothed)
	Anterior Vaginal wall retractor
	Female urine metal catheter

2) Anesthesia: One of following can be used.
   i) Reginal Aneshthesia (Spinal / Epidural)
   ii) General anesthesia
3) Position of patient:
   Abdominal Hysterectomy – Supine position
   Vaginal Hysterectomy - Lithotomy position
4) Foley's catheter inserted for continuous drainage of bladder. Keeping bladder empty is very important for safe operation.
5) Steps of operation
   a) Abdominal Hysterectomy:
   i) Operative part is cleaned with antiseptic solution and covered with sterile towels.
   ii) Abdominal incision – either by infraumbilical paramedian or midline or low transverse incision.
   iii) Abdomen open layerwise.
   iv) The intestines are softly put upward and maintained with large gauze/sponge, and an appropriate operative field is obtained by the self-retaining retractor.
   v) Before starting surgery, the operator should examine the uterus, adnexae, and the surrounding organs, and check whether unexpected abnormalities and/or adhesions exist or not.
   vi) Uterus drawn out of abdominal incision.
   vii) The traction of the uterus is given by either using vulsellum or placing long artery forceps on either side of the uterine cornue. Myoma screw can be used for same purpose.
   viii) Place of Clamps:
   To clamp the respective structure two Kocher's forceps are used. After clamping structure, the tissue between structure cut and ligate with Vicryl No. '0' or barber thread.

   Clamp 1st : Round ligament
   Clamp 2nd :
   If ovaries are to preserved -Cornue of uterus to include Fallopian tube, mesosalpinx containing uterine vessels and ovarian ligament.
   If ovaries are to removed – Infundibulopelvic ligaments
   ix) Uterovesial fold is opened by extending incision from round ligament.

x) Bladder pushed down and out with gauze till anterior vaginal wall is reached.

xi) Place of Clamps:

Clamp 3rd : Parametrium including uterine artery, close to the uterus at the level of internal os.

Clamp 4th : Uterosacral ligaments

The peritoneum in between the ligaments is dissected down.

Clamp 5th : Mackenrodt's ligaments

xii) Vault of Vagina is opened by stab incision with scalpel at cervico-vaginal junction. Vault cut from all sides and uterus removed. Edges of cut vaginal vault held by allies tissue forceps.

xiii) Closure :-

- Vault is sutured with Vicryl no. 0 interrupted sutures or continuous locking suture.
- Pelvic peritoneum sutured with absorbable suture.
- Abdominal packs used for packing are removed.
- Abdomen close layerwise.

Surgical Steps in short

1. Laparotomy, development of the visual field

↓

2. Ligate and cut the round ligament

↓

3. Clamp, cut, and ligate the ovarian ligament and Fallopian tube (or the infundibulopelvic ligament)

↓

4. Mobilization of the bladder

↓

5. Clamp, cut, and ligate the uterine artery and vein

↓

6. Push down the cutting stump with gauze

↓

7. Clamp, cut, and ligate the sacrouterine ligament and the posterior half of the cardinalligament

8. Clap, cut, and ligate the vesicouterine ligament and the anterior half of the cardinal ligament

9. Clamp the boundary between the portio vaginalis and the vagina

10. Incise the vagina and remove the uterus

11. Disinfect the vagina and close the vaginal cuff

12. Hemostasis

13. Close the retroperitoneum

14. Close the abdominal wall.

Post operative Care:

- NBM till peristalsis resumed.
- Antibiotics and Painkillers.
- Foley's catheter kept for 2 days
- Ambulation as early as possible
- Maintain hydration
- After resuming peristalsis gradually start liquid diet then soft diet then full diet.

Stitch Removal:

If non absorbable sutures used for closure then sutures to be removed on 7th day after operation, if wound is healthy.

PROCEDURE FOR VAGINAL HYSTERECTOMY:

Vaginal hysterectomy is a surgical procedure to remove the uterus through the vagina.

Preoperative measures, position of patient, anesthesia mentioned above.

The steps are as follows:

i) Vaginal ceaning done with antiseptic solution.
ii) For proper visualization sometimes both labia minor ate stitched laterally to sterile towels.
iii) Posterior vaginal wall speculum and anterior vaginal wall speculum introduced to visualize cerix.
iv) Anterior lip of cervix held with Vulsulleum or long artery forceps.
v) Female metal urine catheter introduced to identify vesicovaginal junction.
vi) Cervix is infiltrated from all sides (anteriorly, posteriorly, laterally) with Normal saline. NS is infiltrated with adrenaline prewashed syringe so that it help to minimize local bleeding.
vii) A circumferential incision is made around the cervix.
viii) The bladder is dissected off the cervix and reflected upwards.
ix) The anterior peritoneum is opened by cutting the utero-vesical peritoneal fold.
x) The Pouch of Douglas is opened.
xi) Clamp 1st : Uterosacral ligaments, Mackenrodt's ligament are ligated & tied.
Clamp 2nd : The uterine arteries & base of broad ligament are ligated and tied.
xii) Fundus is now brought out through anterior pouch by pair of allies forceps.
xiii) Clamp 3rd : The round ligaments are ligated and tied.
The tubes and ovaries may be taken in this pedicle, or may be preserved.
xiv) The uterus and cervix are removed.
xv) The vagina is normally closed or the edges sutured to ensure haemostasis.
xvi) The uterosacral ligaments may be fixed to the upper vagina to prevent prolapse of the vaginal vault.

Complication of Hysterectomy:

a) Immediate:

During Operation :

- Injury to adjacent structures like bladder, intestine, ureter.
- Hemorrhage
- Anesthetic hazards

Post Operative :

- Shock
- Urinary Retention
- Cystitis
- Anuria – predominantly due to accidental ligature of ureters.
- Urinary incontinence
    - Overflow incontinence
    - Stress incontinence due to prolonged catheterization
    - True : if occurs due to trauma to ureter , bladder.
- Pyrexia – fever may be due to:
    - Cystitis
    - Abdominal wound infection
    - Vault cellulitis
    - Thrombophlebitis
    - Peritonitis
    - Pulmonary infection, Pneumonia, Atelectasis.
- Hemorrhage :
    - Primary hemorrhage-
        - Due to slipping of ligature
    - Secondary hemorrhage-

- Occurs between 7-14 days after operation
- Cause- sepsis
- May be internal hemorrhage or through vault

- Hematoma – Rectus sheath / Pelvic hematoma
- Wound Dehischence
- Paralytic ileus and Intestinal obstruction
- Phlebitis
- Deep Vein Thrombosis
- Pulmonary Embolisim

b) Remote :

- Vault granulation
- Vault prolapse
- Incisional hernia
- Prolapse of fallopian tubes through vault

C) FEMALE STERILIZATION:

या शस्त्रक्रियेमध्ये आर्तववाहिनी नलिकांचा वेध केला जातो. आर्तववह स्रोतस वेध याबरोबर आपण संबंध प्रस्थापित करु शकतो. आर्तववह स्रोतस विद्ध लक्षणांमध्ये वंध्यत्व हे लक्षण सांगितले आहे.

गर्भाशय आघात – If there is gross injury to uterus due to any severe trauma may result in hysterectomy which leads to incidental sterilization.

PRINCIPLE:

Occlusion of the fallopian tubes in some form, so that preventing mating of sperm and ovum, results in preventing conception which is ultimate aim of contraceptive measure.

INDICATIONS:

I) Family planning purposes: Female sterilization is most popular method of terminal contraception all over the world.

II) Socioeconomic: An individual is adopted to accept the method after having the desired number of children.

III) Medicosurgical indications (Therapeutic) :

Repeated pregnancies may worsen some medical diseases. E.g. Heart diseases, diabetes, hypertension .

After some surgeries, future pregnancy may be risky for female. E.g. Third time cesarean section, repair of uterine prolapse.

Therefore in such situation, for the wellbeing of women, it is advised to go for female sterilization.

TIME OF OPERATION:

I) During Puerperium: Operation can be done 24-48 hours following delivery.

II) Interval: Operation done beyond 3 months following delivery or abortion.

Ideal time of operation is following menstrual period in proliferative phase.

III) Concurrent with MTP: Sterilization is done along with termination of pregnancy.

METHODS OF FEMALE STERILIZATION:

1) Tubectomy : Resection of a segment of both the fallopian tubes done.
2) Hysterectomy: Incidental sterilization effect due to hysterectomy during child bearing period. But should not be done for sterilization purpose.

TUBECTOMY

PREOPERATIVE:

i) Consider general points given in previous surgeries like preparation, NBM etc.

ii) Preparation of bowel: Laxatives should prescribed one day before surgery to keep bowel empty.

POSITION OF PATIENT: Supine position

ANESTHESIA: Any one from following can be used as per necessity

a) Local anesthesia with infiltration of inj. Xylocain over incision site.
b) General anesthesia
c) Regional anesthesia – Spinal anesthesia

APPROACH TO TUBE:

I) Abdominal approach to tube

i) Laparotomy

ii) Minilaparotomy

II) Vaginal approach to tube – approach through posterior colpotomy.

Not done routinely.

OPERATIVE STEPS:

i) Incision: May be Midline / Paramedia / Transverse

a) In puerperal cases - Just below the level of fundus. Incision is made two fingers breadth.

b) In interval cases – 2 fingers breadth above the pubis symphysis.

ii) Abdomen is opened layerwise.

iii) Delivery of tubes:

a) Index finger is introduced behind the fundus of uterus.

b) Finger passed over posterior of uterus slides toward posterior leaf of broad ligament from where tubes hooked out with fingers.

c) With training , one can pick up fallopian tubes with babcocks' forceps blindly from side of uterus.

d) Identification of tubes: Tubes identified by the fimbrial end and mesosalpinx.

iv) Resection of tubes and ligation:

There are different techniques by which we can resect fallopian tubes and ligate tubes.

a) Pomeroy's Technique:

- Tube should hold at junction of proximal and middle third part.
- Loop of tube made covering isthmus and ampullary part of tube.
- Needle threaded with Chromic catgut no. '0' passed through avascular area of mesosalpix and both limbs of loop are firmly tied together.
- About 1.5 cm area of tube distal to ligature is excised.

- Segment of loop removed is to be inspected to be sure that the wall has not been partially resected and to send it for histopatholgy.
- Same procedure repeated on both sides of tubes.
- Advantages:
    - Easy, safe and very effective technique
    - Cut ends of tubes become independently sealed off & retract widely from each other.
    - Failure rate – 0.1-0.5 %

b) Uchida Technique:

- Saline Solution is injected subserosally in the mid portion of tube to create a bleb.
- Serous coat is incised along the antimesenteric border to expose muscular layer of tube.
- Tube is ligated on either side with Chromic catgut No.'0' and about 3-5 cm of tube is resected off.
- The ligated proximal stump is allowed to retract beneath serous coat.
- Serous coat is closed with fine suture in such a way that the proximal stump is buried but distal stump is open to peritoneal cavity.
- Failure rate – No failure rate observed so far.

c) Irving Method:

- Tube is ligated on either side.
- Portion of tube in between ligature is resected off.
- Free medial end of tube is turned back and buried into posterior uterine wall creating myometrial tunnel.

d) Madlener technique:

- Loop of tube is crushed with artery forceps.
- Crushed area is tied with black silk.
- The loop is not excised.
- Failure rate : very hight about 7%

- So this technique is abandoned.

e) Kroner technique:

- Fimbriectomy is done.
- Not used routinely.

v) Abdomen is closed in layers.

POST-OPERATIVE:

i) NBM till peristalsis resumed.
ii) Antibiotics
iii) Ambulation as early as possible.
iv) Discharge patient after 48 hours if vitals are normal.
v) Stitches removed on 5th to 7th day.

You can mention laparoscoip sterilization in short while attempting question.

COMPLICATIONS:

I) Immediate Complications :

- Anesthetic complication
- Wound infection
- Peritonitis
- In Vaginal method – Internal hemorrhage leading to Broad ligament hematoma , Injury to rectum.

II) Remote Complication;

- Abdominal approach – Incisional hernia
- Vaginal approach – Dysparunia

- General Complication – Obesity , Psychological upset
- Gynecological :
    - Chronic pelvic pain
    - Congestive dysmenorrhoea
    - Menstrual abnormalities- menorrhoagia, Hypomenorrhoea, Irregular periods
    - Postligation syndrome – Pelvic pain, Menorrhagia, cystic ovaries.
    - Alteration in libido.

REVERSIBILITY;

- Reversal of tubal ligation is possible with microsurgical technique.
- Pregnancy rates after reversal are high (80%) following use of clips and rings.
- Chances of ectopic pregnancy are more after reversal of tubal ligation.

D) CERVICAL ENCIRCLAGE:

- It is the surgical procedure carried out for the cervical incompetence during pregnancy.
- The purpose of procedure is to prevent abortion or premature delivery of fetus.

योनिव्यापत चिकित्सा वर्णन करताना चरकानी स्थानभ्रष्ट योनिचिकित्सा वर्णन केली आहे.

"................विवृतां परिवर्तयेद्।" ....च.चि.३०/४४

"परिवर्तयेद् इति परितो वर्तनेन संवृतां कुर्यात् ॥" .... चक्रपाणी

योनिमुख विवृत झाले असल्यास योनिच्या चारही बाजुने वर्तन करुन योनिमुख संकुचित करावे असा उल्लेख मिळतो. जरी हि चिकित्सा गर्भावस्थेत करावी असा प्रत्यक्ष उल्लेख नाही , तरी

Cervical Incompetence मध्ये योनिमुख विवृतता आढळते व Encirclage मधे आपण योनिच्या चारही बाजुने स्टिच घेउन योनिमुख संवृत करतो. त्यामुळे सदर संदर्भ समजता येईल.

INDICATION:

Cervical incompetence leading to recurrent second trimester abortion.

If on USG , cervical length < 2.5 cm – encirclage is advised.

CONTRAINDICATIONS:

i) Intrauterine infection

ii) Ruptured membranes

iii) History of vaginal bleeding in pregnancy

iv) Severe uterine irritability

PRINCIPLE: A non absorbable encircling suture is placed around the cervix at the level of internal os. It interfers with the uterine polarity, preventing the internal os and the adjacent lower segment from being "taken up".

TIMING OF OPERATION:

I) In proven case – at around 14 weeks of pregnancy or atleast 2 weeks earlier than the lowest period of previous abortion, as early as 10 th week.

II) In doubtful case – Can be done empirically as outlined above or to inspect cervix through speculum and as soon as cervical dilatation or bulging of membrane is visible.

PREOPERATIVE CARE:

As outlined in above surgeries, preparation, informed consent , fitnesss, NBM etc are advised.

Medication – Tocolytics agents e.g Duvadilan and progesterone support started before the surgery to prevent uterine stimulation.

INSTRUMENTS:

i) Sponge holding forceps

ii) Sim’s speculum

iii) Anterior vaginal wall speculum

iv) Allies tissue forceps

v) Needle holder

vi) Scalpel (For Shirodkar’s operation)

vii) Suture Material –

- For Shirodkar’s operation – Mersilene or No.4 braided Nylon
- McDonald’s operation – Non absorbable suture like Nylon, Ethilon, Prolene.

METHODS OF CIRCLAGE OPERATION:

1) Shirodkar’s Method for circlage operation
2) McDonald Method for circlage operation

ANESTHESIA: General Anesthesia

POSITON OF PATIENT: Lithotomy Position

STEPS OF OPERATION:

i) Operative area should be cleaned with antiseptic solution and covered with sterile towels.

ii) Vaginal wall retracted with posterior vaginal wall speculum and anterior vaginal wall speculum.

For Shirodkar’s Method:

- Anterior lip of cervix held by allies tissue forceps or sponge holding forceps
- Anterior incision on vaginal wall: Transverse incision below base of bladder, and bladder pushed upwards.
- Posterior incision on vaginal wall: Vertical incision on cervico-vaginal junction.

- Place of suture: Starting from anterior incision , Mersilene or Nylon suture with help of cervical needle or aneurysm needle passed submucosally so as to bring the suture ends through the posterior incision.
- Bulging membrane if present must be reduced beforehand into the uterine cavity.
- Ends of suture are tied up posteriorly by a reef knot.
- Anterior and posterior incisions are repaired by interrupted stitches using chromic catgut.

For McDonald's Method:

- Type of stitch: Purse string suture with Non absorbable suture
- Place of suture: as high as possible at the cervico-vaginal junction below level of bladder.
- Suture starts at anterior lip of cervix.
- Taking successive deep bites it is carried around the lateral & posterior walls back to anterior wall again where two ends of suture tied.

  (Suture passed through ; Anterior wall of cervix – Left lateral wall of cervix – posterior wall of cervix- right lateral wall of cervix- anterior wall of cervix)

SPECIAL PRECAUTIONS:

- Avoid injury to base of bladder while dissecting anterior vaginal wall or taking suture.
- Avoid accidental injury to Fetal membranes while taking sutures.

POSTOPERATIVE:

i) NBM till next order

ii) Antibiotics prophylaxis

iii) Continue parenteral tocolytic and progesterone for 24 hours

iv) Shift on oral tocolytic and progesterone support for 7 days.

v) Bed rest for atleast 5-7 days.

COMPLICATIONS:

i) Accidental injury to urinary bladder.

ii) Rupture of membranes.

iii) Slipping or cutting through the suture.

iv) Chorioamnionitis

v) Abortion / Preterm labour

REMOVA OF STITCH:

Stitch should be removed at 38th week or earlier if labor pain starts or features of abortion appear.

If not cut in time – Uterine rupture or Cervical tear may occur.

Stitch should be cut in operation table as there is increased chance of cord prolapse.

E) EPISIOTOMY:

Also Called as "PERINEOTOMY"

DEFINITION:

A surgically planned incision on the perineum and the posterior vaginal wall during second stage of labour is called episiotomy.

It is an inflicted second degree perineal injury.

OBJECTIVES:

i) To enlarge the vaginal introitus so as to facilitate easy & safe delivery of the fetus.

ii) To minimize overstretching & rupture of perineal muscles & fascia;

iii) To reduce the stress & strain on the fetal head.

INDICATIONS:

I) Maternal Interest :-

i) Anticipating perineal tear

- Primigravida patient
- Face to pubis presentation
- Face presentation

- Big baby
- Narrow pubic arch

(In this situations, there are chances of perineal tear, so in order to avoid unplanned perineal tear, deliberate incision taken on perineum to avoid trauma)

ii) Inelastic Perineum- common in

- Elderly primigravida
- Old perineal scar of episiotomy or perineorrhaphy.

iii) To cut short the second stage of labour-

Necessary in conditions where the bearing down efforts of labour may worsen the medical condition of mother or baby

- Maternal heart disease
- Severe Pre-eclampsia or Eclampsia
- Post Cesarean cases
- Postmaturity

II) Fetal Interest:-

i) Fetal distress

ii) Premature baby- to minimize compression of pliable skull bones

iii) Breech delivery- to facilitate manipulation and to minimise compression of after coming fetal head

III) Obstetrician Interest:

i) Manipulative delivey (forceps application, Ventouse application) needs more space for operative or manipulative delivery.

<u>TIMING OF EPISIOTOMY:</u> Needs judgement of obstetrician.

<u>IDEAL TIME</u>: Bulging thinned perineum during contraction just prior to crowning.

If done early – blood loss will be more.

If done late – objective of episiotomy may thus defeated.

<u>INSTRUMENT</u> – EPISIOTOMY SCISSORS

ANESTHESIA – intended perineal area infiltrated with local anesthetic drug e.g. lignocain % with or without adrenalin / Bupivacain 5%

TYPES:

1) MEDIO-LATERAL - done commonly
2) MEDIAN - done commonly
3) LATERAL - totally condemned (not done)
4) 'J' SHAPED - not done widely

1) MEDIAN : Incision commences from the centre of the fourchette and extends posteriorly along midline for about 2.5 cm.
2) LATERAL: Incision starts from about 1 cm away from centre of fourchette and extends laterally, may towards right or left side.

   It has many drawbacks including chance of injury to Bartholin's duct.

   Therefore totally condemned.
3) MEDIO-LATERAL – Incision is made downwards & outwards from midpoint of fourchette either to the right or left. It is directed diagonally in a straight line which runs about 2.5 cm away from the anus (midpoint between anus & ischial tuberosity)
4) 'J' SHAPED – Incision begins in the centre of the fourchette & is directed posteriorly along the midline for about 1.5cm & then directed downwards and outwards along 5 or 7 o'clock position to avoid the anal sphincter.

   This is also not done widely.

STEPS OF MEDIO-LATERAL EPISIOTOMY:

STEP-1: Preliminaries – Cleaning with antiseptic lotion and draping with sterile towels. Local anesthesia with Lignocain.

STEP-2: Incision –

- Two fingers are placed in the vagina between the presenting part & the posterior vaginal wall.
- Incision made by episiotomy scissors, one blade of which is placed inside , in between the fingers and the posterior vaginal wall and the other on the skin.
- Incision is made at time of contraction.

- Deliberate cut should be made starting from the centre of fourchette extending laterally either to the right or to the left. It is directed diagonally in a straight line which runs about 2.5cm away from anus.
- Sturctures cut during episiotomy:
    - i) Posterior vaginal wall
    - ii) Superficial & deep transverse perineal muscles, bulbospongious & part of levator ani
    - iii) Fascia covering those muscles
    - iv) Transverse perineal branches of pudendal vessels & nerves
    - v) Subcutaneous tissue
    - vi) Skin.

STEP-3 Repair –

i) Timing of repair: soon after expulsion of placenta.

ii) Preliminaries –

- Lithotomy positon
- Good light source from behind of obstetrician
- Clean perineal with antiseptic solution and draping
- Vaginal pack may be inserted to avoid oozing of blood from above.

iii) Repair -

Principle of repair:

a) Perfect haemostasis

b) To obliterate the dead space

c) Suture with tension

- Suture material – Catgut no. 1 (absorbable suture)
- Done in 3 layers:
    - o Vaginal mucosa & Submucosal tissue – Continuous interlocking suture
    - o Perineal muscles – Continuous interlocking suture

- Ski & Subcutaneous tissue – Interrupted suture

POSTOPERATIVE CARE:

i) Dressing of wound –
  - Wound should be cleaned every time following urination & defaecation to keep area clean and dry.
  - Antiseptic lotion used for cleaning
  - Antiseptic ointment applied on wound.

ii) Comfort to relieve pain
  - Analgesics
  - Local magnesium sulphate compress
  - Application of infra red heat

iii) Removal of stitches –
  - Not needed if absorbable suture material used for closure of skin
  - If non absorbable suture material used for skin closure the stitch should be removed on 6-7th day.

COMPLICATIONS:

I) Immediate :-

  i) Extension of incision to involve rectum.
     - More common in median episiotomy

  ii) Vulval haematoma

  iii) Infection

  iv) Wound dehiscence

II) Remote:-

  i) Dyspareunia

  ii) Chance of perineal laceration in subsequent labour

  iii) Scar endometriosis (Rare)

F) CESAREAN SECTION:

Delivery of a baby through incision on abdomen and uterus.

Ayurveda:-

- Due to development of science cesarean section is routine procedure. In order save life of fetus and mother , procedure is carried out for obstetric indications.
- But in ancient times, the delivery of fetus through abdomen was indicated only in case when mother is about die but intrauterine fetus is alive, so in order to save fetus, it is indicated to deliver a fetus through abdominal incision.

"वस्तमारमिपन्नायाः कुक्षिः प्रस्पन्दते यदि।
तत् क्षणात् जन्मकाले तं पाटयित्वोद्धरेद् भिषक् ॥" .... सु.नि.५/१४

"बस्तिद्वारे विपन्नायाः कुक्षिः प्रस्पन्दते यदि।
जन्मकाले ततः शीघ्रं पाटयित्वोद्धरेत् शिशुम्॥" .... अ.हृ.शा.२/५३

" अभिघातान् मृतायास्तु गर्भः प्रस्पन्दते यदि।
जन्मकाले ततः शीघ्रं पाटयित्वोद्धरेत् शिशुम्॥" .... वङ्गसेन ३८/१९४)

जर गर्भिणी स्त्री ची अवस्था मरणासन्न बकरी प्रमाणे झाली असेल (वस्तमार) , स्त्री विपन्नावस्थेत असेल परंतु कुक्षि प्रदेशी गर्भस्पंदन जाणवत असेल तर उदर पाटण करुन बालक निर्हरण करावे. २ घटिका / १ मूहुर्तात जर उदर पाटण नाही केले तर बालकाचा देखिल मृत्यु होतो.

DEFINITION:

It is an operative procedure whereby the fetuses after the end of 28th week are delivered through an incision on the abdominal and uterine walls.

The incidence of caesarean section is steadily increasing. The responsible factors for such rise in incidence are:

i) Improved anesthesia techniques

ii) Availability of blood transfusion, antibiotics

iii) Increased awareness of fetal well being

iv) Indentification of at risk mothers

v) Wider use of caesarean section in post caesarean pregnancies & Malpresentation

vi) Increased prevalence of primigravid mothers in hospital population

vii) Reduction of difficult operative or manipulative vaginal deliveries

viii) Adoption of small family norm- neither the obstetricians, nor the patients desire to take even slight extra fetal risk of abnormal labour.

INDICATIONS:

I) Absolute indications: conditions where vaginal delivery, even with aids is not possible.

 i) Severe degree of contracted pelvis with true conjugate less than 7.5cm

 ii) Cervical or broad ligament fibroid

 iii) Vaginal atresia

 iv) Advanced carcinoma cervix

II) Relative indications:

 i) Cephalo-pelvic disproporation and Contracted pelvis

 ii) Previous uterine scar due to previous ceaseran section, myomectomy

 iii) Fetal distress during first stage of labour

 iv) Abnormal uterine contractions

 v) Antepartum haemorrhage:

- Placenta praevia – Severe degree of placenta praevia
- Abruptio placentae –
  - In early concealed haemorrhage with mature and live baby
  - In unresponsive severe concealed variety

vi) Malpresentation-

- Uncorrected or persistent transverse lie
- Brow or mento-posterior positon
- Cord prolapsed

vii) Bad obstetric history-

viii) Hypertensive disorders

- Acute fulminating pre-eclampsia not responding to conservative treatment
- Eclampsia with uncontrolled convulsions & patient not in labour

ix) Failed surgical induction

x) Elderly primigravida

xi) Medico-gynecological disorders

- Chronic hypertension or chronic nephritis
- Diabetes- Uncontrolled DM or with previous history of fetal wastage, Caesarean section
- Heart disease- Uncorrected coarctation of aorta or organic heart lesions associated with factors leading to prolongation of labour
- Pelvic tumors such as cervical or broad ligament fibroid, impacted ovarian tumour or advanced carcinoma cervix
- Vaginal atresia
- Successful repair of vesico-vaginal fistula
- Difficult repair of stress incontinence
- Secondary cervical dystocia following amputation of cervix

CONTRAINDICATION:

i) Dead fetus

ii) Baby is too premature to survive ex-utero

iii) Presence of blood coagulation disorders

TIME OF OPERATION:

I) Elective : When operation is done at prearranged time during pregnancy to ensure best surgical conditions

II) Emergency – When operation is done due to unforeseen complications arising either during pregnancy or during labour without wasting time following the decision.

TYPES OF OPERATION:

I) Lower Segment C.S. (LSCS)

II) Classical or Upper segment

I) Lower Segment:

- Method practiced in present day
- In LSCS, extraction of the baby is done through an incision made in the lower segment through transperitoneal approach

II) Classical or Upper Segment:

- Baby is extracted through an incision made in the upper segment of uterus.
- Done in conditions where lower segment approach is difficult or risky.

  Eg. Dense adhesions due to previous abdominal operation, big fibroid on lower segment, Severe degree of placenta praevia with engorged vessels in lower segment

I) Lower Segment Caesarean Section (LSCS):

PREOPERATIVE:

i) Routine preoperative preparation like abdomen preparation, consent etc

ii) Antacids – inj. Pantoprazole, Inj. Ranitidine

iii) Nowadays Inj. Pause 2 ampoules in intravenous drip 1 hour before operation

iv) Bladder should be cathetise to keep bladder empty

v) FHS should be checked once more at this stage.

ANESTHESIA: Any one of the following mode can be used

i) Regional anesthesia – Spinal / Epidural

ii) General anesthesia

iii) Local anesthesia – very anesthetic not available and transfer of patient is not possible

POSITION OF PATIENT: SUPINE POSITON

INSTRUMENTS;

i) Sponge holding forceps

ii) Scalpel with surgical blade no. 22

iii) Scissors

iv) Allis tissue forceps

v) Artery forceps

vi) Green armytage forces

vii) Doyen's retractor

viii) Forceps – Plain and toothed forceps

ix) Cord clamp

x) Needle holder

xi) Suture Material –

- Absorbable suture material – Catgut no. 0 or Vicryl no. 0 (For uterus, peritoneum , muscles)
- Non absorbable suture material – Ethilon 2-0, Prolene no. 1 (for skin)

OPERAATIVE STEPS:

i) Abdomen below umbilicus uto the thighs should be cleaned with antiseptic lotion and then patient covered with sterile drapes.

ii) Incision on abdomen – any one of incision from following can be taken

- Modified Pfannenstiel (low transverse) incision
- Infraumbilical midline incision
- Infraumbilical Paramedian

iii) Abdomen open in layers.

iv) Doyen’s retractor is introduced.

v) Packing : The peritoneal cavity is now packed off using tow taped large swabs.

vi) Uterine incision:

- Peritoneal incision- The loose peritoneum of utero-vesical puch is cut transversly across lower segment. The lower flap of peritoneum is pushed down a little.
- Uterine muscle incision-
    - Small transverse incision is made in the midline by scalpel at a level slightly below peritoneal incision until membranes of gestation sac are exposed.
    - The incision is extended transversely by inserting two index fingers
    - Incision may be extended on either sides using a pair of a curved scissors.
    - The incision is about 10 cm in length with concavity directed upwards.

vii) Delivery of fetal head / Presenting part:

- Fetal membranes are ruptured if still intact.
- Amniotic fluid is sucked out by suction machine.
- Doyen’s retractor is removed
- Fingers are slightly inserted in between the lower uterine flap and the head until the palm is placed below the head
- Head is delivered by hooking the head with fingers
- Head can be delivered using obstetrics forceps.
- If head is jammed, an assistant may push up the head by sterile gloved fngers introduced into the vagina.
- As soon as head is delivered, the mucus from the mouth, pharynx and nostrils is to be sucked out using rubber catheter attached to electric sucker or mucous sucker.

viii) Delivery of the trunk:

- Head of baby slightly lifter upwards so as to facilitate delivery of posterior shoulder. Thereafter anterior shoulder is delivered.
- After delivery of shoulder , rest of body is delivered slowly.
- Cord is cut in between two clamps and the baby is handed over to the nurse and pediatrician for further care.

ix) Placenta with fetal membranes delivered. Exploration of the uterine cavity is desirable.

x) Suture of uterine wound:

- The margins of uterine incision are picked up by Allis tissue forceps or green Armytage haemostasis clamps.
- Uterine incision is sutured in three layers
- First layer- Starting from one of the angle of uterine incision, uterus sutured with absorbable suture (either catgut or Vicryl) with round body needle. A continuous running suture taking deeper muscles excluding the deciduas ensures effective apposition of tissues.
- Second layer- Similar suture is placed taking the superficial muscles and adjacent fascia overlapping the first layer of suture.
- Third layer (Peritoneal)- Peritoneal flaps are apposed by continuous suture.

xi) The mops placed inside are removed and number verified.

xii) Paracolic gutters are cleaned.

xiii) Abdomen closed layerwise.

<u>POST-OPERATIVE:</u>

i) Patient is observed for atleast 6-8 hours, Monitor pulse, blood pressure, amount of vaginal bleeding and tone of uterus.

ii) NBM till Bowel peristalsis established

iii) Nutrition and hydration maintained by parenteral IV Fluids

iv) Prophylactic oxytocin in infusion drip may continue for 6-8 hours

v) Prophylactic antibiotics

vi) Analgesics

vii) Early ambulation of patient to minimixe leg vein thrombosis & pulmonary embolism.

viii) After establishing peristalsis, gradual diet with liquid diet, soft diet and then full regular diet.

ix) Advised to breast feed baby as early as possible.

x) Foleys catheter should be removed when patient is comfortable for ambulation

xi) Regular care of wound with dressing

xii) Abdominal skin stitches should be removed on 7th day postoperative if not contraindicated.

ASSIGNMENT 4:

1) HYSTEROSALPINGOGRAPHY
2) UTERINE SOUND (GARBHASHAYA ESHANI)
3) CUSCO'S SPECULUM
4) SIM'S SPECULUM
5) UTERINE CURRETE

(while writing instrument cover points as follows-

1) Name of instrument
2) Type of instrument as per ayurved
3) Indentification marks of instruments
4) Uses – in Obst / in gynec
5) Method of sterilization