

Examination of a Gynecological Patient

Examination of a gynecological patient includes history taking include as well as general, abdominal and internal examinations. A detailed and composite history using different formats can be obtained.

HISTORY TAKING

Past medical history: Information regarding relevant medical disorders such as systemic illness, metabolic or endocrine disorder and infection.

Past surgical history: General, obstetrical or gynecological surgeries, postoperative recovery and any special information related to investigations are included.

Personal history: Data related to occupation, marital status, sexual life, contraceptive practices, any infertility problems and if not married status of genitourinary functions are included. History of medications taken in the past and currently and any allergies are also entered.

Family history: Information on diseases in family that can have some value such as malignancies of genital organs, colon, tubercular infections, etc. is taken.

EXAMINATION

Examination of a gynecologic patient includes general, systemic examination and gynecological examination.

General and Systemic Examination

- Aspects included in this examination are:
- General body built (obese/thin)
- Development of social characteristics
- Appearance-inspection (head to foot)
- Systems examination-gastrointestinal cardiovascular and respiratory
- Vital signs

Gynecological Examination

Breast examination is done especially for women above 30 years with special attention to the presence of any lump or pathology

Abdominal Examination

Using different methods such as inspection, palpation, percussion and auscultation, abdominal and pelvic organs and their functions are assessed. Some of the important observations include presence of old scar, striae, prominent veins, hernia and abnormal distention of abdomen. Palpation can reveal muscle tension, rigidity or guarding Any tumor of growth if felt may be further tested for consistency, mobility and location

Percussion may be useful to study the details of any tumor or fluid collection palpated.

Auscultation method is used to identify intestinal sounds, uterine soufflé over a vascular fibroid or pregnant uterus and fetal heart rate (FHR) over a pregnant uterus.

Pelvic Examination

Internal examination for gynecological patients includes:

Inspection of vulva

Vaginal examination

Rectal examination.

Rectovaginal and bimanual examination.

Inspection of Vulva

Vulvar inspection is done to note any anatomical abnormality, visible pathological changes discharges genital prolapse, stress incontinence and hemorrhoids.

Vaginal Examination

Examination is done for inspection of vagina and cervix. A speculum examination followed by a bimanual examination is done by the physician to evaluate the structures. Cervical scrape cytology and endocervical sampling for cytological testing are done in all or selected gynecological patients. Digital examination of the vagina using a gloved index finger lubricated with sterile lubricant is done to palpate any swelling in the labia or adjacent structures. In virgins with intact hymen, this examination is done only under anesthesia

The vaginal cervix is examined for following features

- Direction: Anteverted or retroverted
- External: os at the level of ischial spines or not
- Texture: Firm-like tip of nose or so
- Shape: Conical or cylindrical
- External os : Round or dilated
- Movement: Painful or not

Tendency to bleed on touch-present or not

Integrity and tone of the perineal body are checked by flexing the internal finger posteriorly and palpating it with the thumb placed externally. Bimanual examination will be done to palpate the uterus, uterine appendages and pouch of Douglas

Vaginal or cervical discharge and scraping

- Microscopic examination
- Culture examination

Cervical smear for cytological and hormonal study

Cervical mucus for bacteriological study, hormonal status and infertility investigation.

Rectal Examination

Rectal examination is done in isolation or as an adjunct to vaginal examination. It is indicated in:

- Children or adult virgins
- Painful vaginal examination
- Carcinoma cervix
- Vaginal atresia
- Rectocele or enterocele.

Rectovaginal and Bimanual Examination

Rectovaginal or bimanual examinations may also be performed when indicated, e.g. adnexal mass.

Blood Investigations

Commonly included blood tests are:

- Hemoglobin estimation
- White blood cells (WBCs) counts
- Erythrocyte sedimentation rate
- Venereal disease research laboratory (VDRL) test
- Platelet count
- Bleeding and coagulation time.

Urine Examination

Routine examination

Culture and drug sensitivity.

DIAGNOSTIC PROCEDURES

Colposcopy

Colposcopy is examination of the cervix and vagina using an instrument called colposcope and colpomicroscope.

Patient Selection

- Women with abnormal smear report
- Women with history of contact bleeding despite negative smear.

Procedure

1. Patient is placed in lithotomy position after ensuring that her urinary bladder is empty.

2. Cusco's speculum is placed to visualize the cervix.
3. Colposcope is inserted and cervix and vagina examined using low-power magnification.
4. During examination, cervix is wiped with normal saline and 3% acetic acid for better assessment. Findings include normalcy of epithelium and changes due to condyloma or papilloma.

X-ray Examination

Plain X-ray of pelvis is used to locate an intrauterine contraceptive device (IUCD) or shadows of teeth or bone in a cystic teratoma. Special X-rays used for gynecologic patients are:

- Hysterosalpingography to note tubal patency
- Lymphangiography to locate the lymph glands in pelvic malignancy.

Ultrasound Examinations

Ultrasonographic examinations are common diagnostic modalities in gynecology:

1. Transabdominal sonography (TAS) is used in conditions, where patient has large masses like fibroid or ovarian tumor
2. Transvaginal sonography (TVS): This is done with a probe, which is placed close to the target organ. Detailed evaluation of pelvic organs (within 10 cm of the field) is possible with TVS. This method is not suitable for use in women with narrow vagina as in virgins, postmenopausal women or postradiation vaginal stenosis.
3. Transvaginal color Doppler sonography. This examination provides additional information of blood flow to, from or within an organ (uterus or adnexal) This flow can be measured by analysis of the waveform using the pulsatility index.

Use of Ultrasound Examinations

1. Infertility work-up: Monitoring of follicular maturation and ovulation for induction of ovulation, artificial insemination and ovum retrieval in case of in vitro fertilization (IVE) and gamete intrafallopian transfer (GIFT)
2. Detection of ectopic pregnancy at tubal ring separate from ovary in a patient with empty uterine cavity.
3. Detection of pelvic mass such as uterine fibroid ovarian mass, endometriomas tubo- ovarian mass etc. with regard to the location and consistency [transvaginal color Doppler sonography (TV-CDS)] can assess the vascularity of the mass that raises suspicion of malignant tumor.
4. Detection of submucosal fibroids and polyps using Sonohysterographic studies, which involve instillation of saline in the uterine cavity and aspiration of material from cysts and masses.

Computed Tomography

Computed tomography (CT) scan provides high resolution. two dimensional images. CT differentiates tissue densities and these gray scale pictures can be read on X-ray film or

television monitor. Pelvic organs can be differentiated from gastrointestinal and urinary systems using contrast media given orally, intravenous (IV) or rectally.

The CT scan is most useful in the diagnosis of lymph node metastasis, depth of myometrial invasion in endometrial cancer, ovarian mass and myomas. CT scan also facilitates the percutaneous needle biopsy of suspicious lymph nodes. CT scan is also useful in assessing tumor extent and detecting metastases. It is useful in staging of ovarian cancer and deposits of cancer cells in other organs such as the liver.

Magnetic Resonance Imaging

Magnetic resonance imaging (MRI) creates cross-sectional images of body using a combination of radio waves (non-ionizing radiation) and magnetic fields.

In gynecology, MRI is found superior to CT scan in the delineation of pelvic organs in multiple planes.

Uses of Magnetic Resonance imaging

1. To measure the depth of myometrial penetration of endometrial cancer preoperatively MRI is used.
2. It can detect accurately the parametrial invasion of cervical cancer and distinguish post-treatment fibrosis and recurrence
3. Tumor volume can be measured with 3D imaging system. MRI is thus useful in determining the invasion of bladder, rectum, parametrium and uterine body.
4. Leiomyomas are better diagnosed with MRI.
5. The MRI is useful in the diagnosis of endometriosis as it can measure the depth of penetration, which is responsible for pelvic pain
6. The MRI is useful and even superior in the evaluation of metastatic lymph nodes or recurrent pelvic tumor.

Positron Emission Tomography

Positron emission tomography (PET) is based on the tissue uptake of 18-fluoro-2 deoxyglucose. Fluorodeoxyglucose (FDG) PET can measure the difference between the normal tissue and cancerous tissue. The glucose analog is given IV, scan is then done and images are interpreted. The scan is more sensitive for detection of metastatic diseases and recurrence of ovarian malignancy. It is also useful to assess the response following tumor therapy.

Surgical Methods

1. Endometrial sampling: It is one of the diagnostic tests done in the clinical work-up of women with infertility or abnormal uterine bleeding, or for periodic screening during hormone replacement therapy. A uterine sampler, which has a thin plastic cannula and plunger, is used to

obtain a sample of endometrium. Endometrial sample obtained by suction from the fundus and upper part of the body is used for the test.

2. Endometrial biopsy: This is the method of obtaining endometrium by curettage after dilatation of the cervix. It is usually performed under general anesthesia.

3. Cervical biopsy: It is done to confirm the clinical diagnosis of cervical pathology. Biopsy can be taken in the outpatient unit, if the pathology is detectable, but for wider tissue excision as in cone biopsy, it is done as an inpatient procedure.

4. Culdocentesis: It is the transvaginal aspiration of peritoneal fluid from the cul-de-sac or pouch of Douglas. The procedure is done in suspected ectopic pregnancy or other conditions producing hemoperitoneum and pelvic abscess.

5. Laparoscopy: It is a technique of visualization of peritoneal cavity by means of a fiber optic endoscope introduced through the abdominal wall. Prior to introducing the endoscope pneumoperitoneum is achieved by introduction of carbon dioxide or air. Either local or general anesthesia may be used for performing the procedure.

6. Hysteroscopy: This is an operative procedure for visualizing the endometrial cavity with the aid of fiber optic telescope. Uterine distension is achieved by carbon dioxide, normal saline or glycine. The instrument is passed transcervically after paracervical block or general anesthesia. Hysteroscopy is done for the following indications:

- Unresponsive irregular uterine bleeding
- Recurrent abortion
- Missing threads of IUCD
- Intrauterine adhesions (uterine synechiae)
- To visualize transformation zone with microcolpohysteroscopy, when colposcopic finding is unsatisfactory.

7. Salpingoscopy: In this, a firm telescope is inserted through the abdominal ostium of the fallopian tube, so that the tubal mucosa can be visualized by distending the lumen with saline infusion. The telescope is introduced through laparoscope. This is used to study the anatomy and physiology of the tubal epithelium for selecting patients for IVF.

8. Cystoscopy: The use of cystoscopy in gynecology is to evaluate cervical cancer prior to staging and to investigate the urinary symptoms including hematuria, incontinence and fistula.

9. Culdoscopy: It is the procedure of visualizing the pelvic structures through an incision in the pouch of Douglas. Use of culdoscope is limited as compared to laparoscope.

10. Proctoscopy: It is done following a digital examination of the rectum in cases of rectal involvement of genital malignancy.

11. Examination under anesthesia (EUA): It is indicated where bimanual examination cannot be conducted properly either because of extreme tenderness or inadequate relaxation of abdominopelvic muscles, or non-cooperative patient. It is also done in cases of uterine malignancy for clinical staging and also to examine virgins and children with gynecological problems.

12. Laser (light amplification by stimulated emission of radiation): Laser is used in gynecology for the purpose of tissue cutting, coagulation or vaporization. It is used widely in genital tract surgeries and with endoscopic surgeries.