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# UNIT 3 MANAGEMENT OF GYNAECOLOGICAL PROBLEMS

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## 3.0 OBJECTIVES

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After going through this unit, you should be able to:

- explain the concept of gynaecological disorders;
- list the different types of gynaecological disorders;
- describe the signs and symptoms of different gynaecological problems;
- explain how you will recognize disorders in early stage;
- decide need of referral;
- discuss pre-operative and post-operative care given to women undergoing gynaecological surgery; and
- explain role of nurse in prevention of complications.

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## 3.1 INTRODUCTION

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Gynaecological nursing is quite different from any other nursing and calls for specialist skills in order to identify and meet women's needs. Gynaecological nursing deals with two very important aspects of being a woman — femininity and fertility. It involves the care of the female's anatomy, which distinguishes her from the male. Gynaecological conditions specially surgery affects woman's own body image, she not only loses a part of herself but a part which is very important to her very concept of being a woman. Sexual relationships are also often affected by gynaecological disorders many women fear that these may change their husband's feelings for them. We must remember that sexual relationship may play an important role in a happy marriage life.

Embarrassment about the personal nature of gynaecological problems inhibits some patients from sharing with anyone but the nurse about their conditions. This puts the nurse

in the unique position of being the only person to whom the patient can turn for help and understanding. The nurse therefore has an important role in treating this information confidentially. To deal with these women the nurse has not only to understand the patient but convey that understanding to her. For all this intelligence and imagination are required. Nurses should be sensitive to individuals and if human needs are passed unobserved, the key to gynaecological nursing will be lost.

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## 3.2 INFLAMMATION AND INFECTION OF VAGINA

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In this section of inflammation and infection of Vagina, we will acquaint you with vaginal discharge and vaginitis.

### 3.2.1 Vaginal Discharge

Changes in vaginal epithelium activity and secretion that occur at different times during a woman's life have an influence on the defense against vaginal infection. In an adult woman normal vaginal moisture or secretion consists of vaginal transudate containing desquamated vaginal epithelial cells, which mostly gives it a creamy colour, mucous secreted by the cervical gland and secretion from the endometrial glands. This is a cyclical variation in the amount of secretion. It is heavier premenstrually and there is secretion of clear cervical mucous at the time of ovulation. The epithelium consists of glycogen, which is converted to lactic acid by *Deodrelin's bacilli*, which are normally present in the vagina. As a result vaginal fluid is acidic (pH 4-5) and this prevents multiplication of most of the pathogenic organisms.

Vaginal discharge is a very common problem. Sometimes it is difficult to assess its significance. Vaginal discharge seldom has a noticeable odour unless it is associated with anaerobic organisms, these mostly occur often with foreign bodies, such as tampons and necrotic tissue as may be found in product of conception and carcinoma.

Assessment of amount of discharge can be difficult. Persistent moistness, a stain on the underclothes or need to give a pad gives a rough estimate of the amount of discharge.

There is a normal and natural increase in vaginal secretion at the time of ovulation, premenstrually and during pregnancy. The contraceptive pill may also cause an increase in cervical secretion. Even cervical erosion may cause an increase in vaginal discharge. These are all increased physiological secretion.

When infection supervenes, the clear or white secretion becomes purulent and coloured and a number of leucocytes appear in the vaginal cavity. In children and postmenopausal women oestrogen levels are low, although at these ages the vagina is exposed to less infection, vaginitis still occur because of the less acidic barrier. On examination the vaginal mucous will often appear erythematous and congested and in majority of the cases an infected vaginal discharge, often indicates specific infection.

### 3.2.2 Infective Vaginitis

#### Monilial Vaginitis

This is a fungal infection with *candida albicans* and especially occurs in women who have glycosuria. The urine must be examined in women who have the infection. Apart from diabetes, pregnant women are also likely to get this infection. Infection may also be found among women who are using oral contraceptives and being treated with antibiotics for other conditions. The infection may be transmitted sexually.

#### *Signs and Symptoms*

- Intense vulval irritation
- Vaginal discharge
- Redness and inflammation of vulval skin which may spread to thighs
- Tenderness
- Thick and white discharge
- Vaginal wall is red

Fungus grows easily in laboratory cultures in which Gram-positive mycelia and spores are seen.

### ***Treatment***

Fungicides — vaginal applications in form of cream or pessary.

Imidazole group of drugs is found to be effective.

Clotrimazole- pessaries are given on three consecutive nights.

Miconazole nitrate — pessaries may also be used for 14 days.

Oral drugs commonly used are Ketoconazole, Fluconazole etc.

### **Trichomonas Vaginitis**

This infection is mostly transmitted by male carrier during sexual intercourse or through toilet articles from one woman to another. Cross infection can occur in gynaecological clinics.

### ***Signs and Symptoms***

- Profuse yellow offensive frothy discharges
- Irritation and soreness
- Onset is mostly sudden and more common during pregnancy
- Inflammation of vulva and urethra
- Vaginal wall is intensely red and inflamed
- Soreness of vaginal wall and vaginal examination may be difficult
- Profuse, frothy, thin, greenish-yellow discharge which has unpleasant odour

### ***Diagnosis***

Diagnosis can be established by examining discharge and slide can be examined for presence of Trichomonas.

### ***Treatment***

Metranidazole is given orally— 200 mg, thrice a day for a week.

Since patients are likely to be infected again by sexual partners, the partner should be given the same treatment.

Patient should avoid taking alcohol during treatment — as they suffer from vomiting, headache and flushing.

Reoccurrence of infection means further course of treatment.

### **Gardnerella Vaginitis**

This is gram negative organism causing vaginal infection. Patient mostly complains of a musky non-irritating grayish white discharge, which may contain small bubbles similar to that seen in Trichomonal infection. Treatment is with Metronidazole along the same lines as for Trichomoniasis.

## **3.2.3 Atrophic Vaginitis**

After the cessation of menstruation slow atrophy occurs in vulva and vagina. There is thinning of the vulval and vaginal epithelium, loss of glycogen in the vaginal epithelial cells and fall in acidity. Local resistance to infection is further diminished by the reduced blood supply. It is not caused by any specific organisms. The patient complains of a profuse purulent and sometimes blood stained discharge which produces discomfort and soreness at vulva. The vaginal wall is inflamed. There may be atrophic endometritis and if this occurs discharge will be seen coming through the cervix. If vaginitis has been there for sometime desquamation of the epithelium of vagina may lead to formation of bands and adhesions. This type of condition may be accompanied by malignant disease of uterus.

Treatment of this type of vaginitis includes oestrogen such as ethinyloestradiol after malignancy has been excluded. Rapid regeneration of the epithelium of the vagina and increased blood supply is expected. Endometrial bleeding may also occur. The possibility of bleeding may be reduced but not entirely eliminated by administering the oestrogen in the form of creams which act locally on vaginal epithelium.

### 3.2.4 Chemical Vaginitis

It may result due to direct or allergic reactions to chemicals, which may be present in spermicides or other contraceptives used as barrier contraceptives agents in douches or in agents used like deodorants and bath preparations.

#### Foreign Body

A retained pessary or a forgotten tampon or swab can produce an offensive purulent discharge. Foreign body may be inserted deliberately or accumulation of fluff in the vagina can cause vaginitis. Removal of these foreign bodies is usually sufficient treatment.

#### Nursing Management of Vaginal Discharge or Vaginitis

Vaginal discharge or vaginitis mostly occurs due to infection.

- Advise personal hygiene.
- Use antiseptics, which are non-irritating, in water for vulval region.
- Rinse detergents out of clothes while washing clothes.
- Collect the vaginal discharge sample with due precaution for bacteriological examination.
- Refer patient for specific treatment as per the investigation.
- Advise regularity of treatment. Treatment of partner is essential to prevent reoccurrence.
- Advise for sexual hygiene and normal changes during post-menopausal period.

#### Check Your Progress 1

- 1) List the common conditions of inflammation and infection of vagina.  
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- 2) Fill in the Blanks:
  - a) Normal and natural increase of vaginal secretion is at the time of ..... and ..... during .....
  - b) When women suffer from vaginitis, on examination vaginal mucosa will appear ..... and .....
  - c) After cessation of menstruation slow atrophy occurs in ..... and vulva.

## 3.3 INFLAMMATION OF CERVIX

#### Acute Cervicitis

The endocervical columnar epithelium may occasionally be infected by the gonococcus, chlamydia trachomatis or by a herpes or papilloma virus. Cervical infection may also follow child birth or operative procedures of the cervix and spread into the base of broad ligament.

Although cervix appears red, congested and swollen with purulent exudate from the canal accompanying vaginal or urethral irritability. This condition is often symptom less and acute cervicitis is mostly associated with acute infection of some of the part of the genital tract. The treatment should as per the particular infecting agent.

#### Chronic Cervicitis

Cervical infection may persist after bacterial infection during childbirth or abortion. Chronic infection presents with mucous from external os or may also be associated with pelvic pain dyspareunia and sometimes backache. On examination the cervix is enlarged by multiple retention of cysts or cervical glands.

#### Diagnosis

- Cervical smear should be taken for cytological examination.
- Cervical and vaginal swab should be taken for bacteriological culture.

### ***Treatment***

Most common treatment is cauterization of cervix. Dialation of cervix and cauterization of the tissue to the depth of 2 mm. Separation of necrotic tissue causes discharge for 2 to 3 weeks and occasionally secondary hemorrhage may occur around 10<sup>th</sup> day or so.

### **Inflammation and Infection of the Uterus**

#### ***Endometritis***

Endometritis is common after delivery or abortion. The cavity of uterus is protected against bacterial invasion by the acid barrier of the vagina and cervical mucous and in addition the shedding of the endometrium and each menstruation prevents the bacterial entry. After delivery lochial discharge forms an excellent culture medium for organisms to enter the tissue at the site from which the placenta is separated. Endometritis is common after operations like curettage or insertion of intrauterine device. Gonococcal infection may spread upward from cervix or tubercular infection may also cause endometritis. Advance stage of carcinoma of endometrium or cervix can also cause infection, which are secondary. After menopause there may be ascending infection causing atrophic endometritis. This usually results due to loss of vaginal acidity and atrophy of vaginal epithelium.

#### ***Signs and Symptoms***

- Complain of vaginal discharge, which may be blood stained.
- Pelvic examination shows atrophic vaginitis and purulent discharge from cervix.
- Uterus may be enlarged, soft and tender.

#### ***Diagnosis***

Signs and symptoms of carcinoma of endometrium are similar to those of atrophic endometritis and pyometra may be present. The material obtained from atrophic endometritis will be granulation tissue with scanty endometrium may show large amount of necrotic material.

Treatment includes drainage after cervical dilation. Healing occurs rapidly after administration of oestrogens 10 mg for four weeks is found to be sufficient.

#### ***Pyometra***

In this condition the uterus becomes distended with pus as a result of the obstruction of the cervical canal by carcinoma of cervix, or by endocervical growth or by carcinoma in the lower part of the body of the uterus. Pyometra may also occur after menopause in patients with atrophic endometritis. Pyometra is mostly caused by coliform streptococci or staphylococci. Tuberculous pyometra is rare.

Patient may present with:

- Blood stained purulent discharge.
- Abdominal pain.
- Fever may be present.
- Uterus size may increase.
- Uterus may also be felt tender.

#### ***Treatment***

Pyometra is drained by dilation of cervix and stitching a drainage tube into the uterus for a few days. If it is due to carcinoma usual treatment will start after drainage of pus. If pyometra reoccurs hysterectomy is performed.

#### ***Nursing Management***

Women in reproductive age and after menopause may be explained the signs and symptoms so that it can be diagnosed and treated early.

Personal hygiene after delivery and abortion may be maintained. During delivery, abortion and insertion of intrauterine device aseptic technique should be maintained.

Since it is common during postnatal period women may be explained about how to maintain personal hygiene during postnatal period.

Any abnormal discharge or bleeding may be reported so that the measures can be taken.

**Check Your Progress 2**

- 1) List the common symptoms of Chronic Cervicitis.

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- 2) Explain what is Pyometra?

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- 3) List the common signs and symptoms of Pyometra.

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- 4) What is the treatment of Pyometra?

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### 3.4 INFLAMMATION AND INFECTION OF FALLOPIAN TUBES AND OVARIES

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In previous section you learnt about inflammation and infection of vagina and learnt about inflammation of cervix, now you will come to know about inflammation and infection of fallopian tubes and ovaries.

Pelvic Inflammatory Disease (PID) is a clinical syndrome attributed to the ascending spread of infection which may not be related to pregnancy or surgery. Infection spreads from vagina, cervix endometrium, fallopian tubes and to other structures of reproductive tract. Infection is mostly through the vagina to the uterus. The common organism is streptococci and staphylococci. Gonococcal infection transmitted sexually can also cause pelvic inflammatory disease. Chlamydia trachomatis is also most common agent of pelvic inflammatory disease, it may colonize the cervix with producing noticeable symptoms and may infect the baby during childbirth causing ophthalmia neonatorum and may subsequently ascend to endometrium and fallopian tubes.

Pelvic Inflammatory Disease can spread also through intestinal tract. The organism involved are usually Escherichia coli or streptococcus faecalis.

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### 3.5 PELVIC INFLAMMATORY DISEASE

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Pelvic inflammatory disease is a term used to describe a number of clinical entities caused by different infective organisms. This infection may be specific or non specific. Broadly speaking it is an inflammation of the upper genital tract caused by organisms ascending from the vagina and the cervix along the endometrium and tubal mucosa to the peritoneum and adjacent organs. Usually it is a diffuse process and depending on the degree of involvement, pelvic inflammation can be mild, moderate or severe. The severity of the disease is dependent on the virulence of the infecting organism and the resistance of the host. The infection may be acute or chronic.

**Incidence**

Approximately 2% of women between 16-25 years of age suffer from PID annually and morbidity produced by this disease exceeds that produced by infection of any other system

occurring in this group. Long term complications affect one out of every 4 women with PID and there is more susceptibility to repeated infection after getting infected once.

### Pathogenics

Acute PID is a common problem inflicting women in the reproductive age. The risk factors include vaginal interference, illegally induced abortions and deliveries conducted under unhygienic conditions. Apart from the morbidity of infection, PID is important because of its long term complications like infertility, chronic backache and persistent vaginal discharge. The fact that early recognition and effective treatment significantly reduces the potential risk of complications only serves to re-emphasise the importance of high index of suspicion and initiation of early effective therapeutic regimen. Another important point is that PID being a polymicrobial infection, polytherapy should be started. It is perhaps better to over diagnose and overtreat the condition rather than delay the treatment awaiting confirmation of diagnosis and entailing risk of troublesome complications.

### Etiology

PID is a poly microbial infection with more than 20 species being responsible in various combinations. The most common organisms are *Neisseria gonorrhoeae* and *Chlamydia trachomatis*. They co-exist in 25-40% of the cases. Next in order is mycoplasma. Several aerobic and anaerobic organisms present in the vagina co-exist in almost one third of the cases.

- 1) **Ascending infection** from the vagina and cervix occurs in 90% of cases. It is spontaneous in 85% and follows surgical invasion of the cervical barrier in 15% by procedures like endometrial biopsy, termination of pregnancy, D & C, IUD insertion and hysterosalpingography.
- 2) **Transperitoneal spread** occurs in 1%. It may follow a performed appendix operation or rupture of an intra-abdominal abscess.
- 3) Rarely the infection may be **haematogenous or through lymphatics**.

Sexual intercourse is the most important predisposing factor for infection. PID is commoner if intercourse takes place during and soon after menstruation as the natural barrier (mucus plug) is already broken and blood provides a suitable culture medium. Other postulations for ascending infection include the travelling of organisms attached to sperms e.g. trichomonas which reach the fallopian tubes and the peritoneal cavity due to their inherent motility even if the cervical mucus barrier is intact. Surgical interventions which invade this barrier predispose to PID.

### Role of Contraception in Pathogenesis of PID

Some methods of contraception are protective while some increase the risk. The risk decrease with proper use of a condom and diaphragm. Hormonal contraceptives also have a protective effect and if infections occurs it is milder. On the other hand intra-uterine devices favour infection of the tubes and the development of acute PID.

### Clinical Features

Symptoms are variable and are proportional to the severity of the infection and virulence of the infecting organisms.

In a case of **acute PID** there are 3 classical symptoms — lower abdominal pain, vaginal discharge and fever. Other symptoms like irregular bleeding, frequency of micturition, rectal tenesmus or vomiting may also occur.

**Pain** — Pain in the lower abdomen is the most frequent symptom of acute PID. It is usually dull, often bilateral and diffuse. PID is the most common diagnosis in a women complaining of pain in the lower abdomen during the reproductive period.

Generally the pain is of short duration lasting for 7-10 days. Sometimes it may be crampy being aggravated by sexual activity. If the pain is present for more than 3 weeks, it is unlikely to be acute PID.

The **discharge** is usually purulent or mucopurulent. It may also be foul smelling or blood stained.

**Fever** may or may not be present in all cases and if present varies in the intensity from mild low grade continuous fever to a high grade remittent fever with chills.

In chronic PID, the patient may be asymptomatic or may complain of backache, pelvic pain, vaginal discharge and/or dyspareunia. Fever is usually absent.

### **Diagnosis**

The diagnosis is usually clinical. The history and physical examination are highly suggestive and investigations confirm the diagnosis.

Diagnostic criteria on examination are:

- i) Lower abdominal tenderness with or without rebound tenderness,
- ii) Painful movement of the cervix or uterus, and
- iii) Uterine and adnexal tenderness.

Other features which may be present in a case of PID include: raised ESR, temperatures > 38 degree centigrade, leucocytosis > 10000/cm, cervical smear positive for bacteria, purulent aspirate from the peritoneal cavity and a pelvic abscess.

It becomes difficult diagnosing PID. Symptoms are often unreliable. Abdominal pain and dyspareunia is common, laparoscopy may be done for correct diagnosis and planning treatment. If diagnosis is made early the prognosis is good and patient can be treated with appropriate antibiotics and pelvic abscess can be prevented but may affect fertility.

### **Management**

In all cases where a clinical diagnosis of PID has been made, therapy should be promptly initiated. It is important for preventing the long term sequelae. The treatment should not be delayed, waiting for conformity procedures or culture reports. Both aerobic and anaerobic microbiological studies, though not essential in all cases certainly help in planning and adjusting appropriate antimicrobial therapy.

Sometimes immunological studies can be done for mycoplasma if it has not been possible to isolate the organism.

### ***Aims of Therapy***

- Antimicrobial therapy
- Doxycycline 100 mg is given twice daily for 14 days
- Metronidazole can be added
- Hospitalization — who are severely ill

### **Complications and Sequelae**

Immediate and short term complications:

- Pelvic abscess
- Persistent tubo-ovarian mass or abscess
- Peritonitis
- Perihepatitis (Fitz Hugh Curtis Syndrome)

### **Long-term Complications**

- Ectopic pregnancies
- Chronic pelvic pain
- Dyspareunia
- Infertility

Tubal damage is reflected to the severity of infection, causative organism and effective and early treatment.

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## **3.6 ABNORMAL VAGINAL BLEEDING**

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It is important to remember that any abnormality in vaginal bleeding is a symptom and not a disease. There are different terms used to describe abnormal vaginal bleeding.



**Menorrhagia** is defined as **excessive** blood loss during menstruation. Either the blood flow is heavy with the passage of clots and the duration of bleeding is normal but lasts for a prolonged period of time.

**Polymenorrhagia** : Occurs when the periods occur more frequently. The length of cycle is less than 21 days. Polymenorrhoea when associated with menorrhagia, is known as **polymenorrhagia**.

**Metrorrhagia** is inter menstrual bleeding in between the regular menstrual periods.

**Hypomenorrhoea** is defined as decreased blood loss during menstruation.

**Oligomenorrhoea** is defined as the increase in the length of the menstrual cycle to 45 days or more.

## Menorrhagia

### Causes

- 1) *Psychological disturbances* may cause menorrhagia. These act through the hypothalamus, disturbing the hypothalamo-pituitary-ovarian axis and hence the abnormal menstrual pattern. It usually gets alright after the emotional stress is over.
- 2) *Local Genital Lesions*
  - a) Uterine fibromyoma,
  - b) Adenomyosis,
  - c) Endometriosis,
  - d) Pelvic infection,
  - e) Carcinoma body of uterus,
  - f) Hormone producing ovarian tumors,
  - g) Use of an intrauterine device.
- 3) *General Diseases*
  - a) **Hypothyroidism** in early stages may cause menorrhagia, which usually responds to thyroxin.
  - b) **Anaemia** is a common associated condition. The cause and effect relationship is not clear. Menorrhagia causes anaemia, which may aggravate menorrhagia. Thus a vicious cycle is formed. Correction of anaemia on its own sometimes cures menorrhagia.
  - c) **Blood diseases** like leukemia, thrombocytopenic purpura and hereditary capillary fragility (Von Willebrand's disease) may also be present as menorrhagia. There are other symptoms and signs which suggest the correct diagnosis.
- 4) *Dysfunctional Uterine Bleeding*: It refers to excessive bleeding which is not due to any local pathology or conception. No abnormality detected on pelvic examination is suggestive of this diagnosis. However some of these cases on curettage may turn out to be endometrial polyps, unsuspected products of conception or adenocarcinoma. Rarely tubercular endometritis in the early stages may present as menorrhagia though in our country most cases of tubercular endometritis present as oligomenorrhoea, amenorrhoea or infertility. Probably advanced disease results in the destruction of the endometrium causing amenorrhoea.

### Diagnosis

**History**: In the reproductive age group pregnancy related bleeding should always be thought of first. The history of amenorrhoea preceding the bleeding must be observed. A history of amenorrhoea for 6-8 weeks followed by painless vaginal bleeding for 3-4 weeks and a bulky uterus can be present in metropathica haemorrhagia, hence other symptoms suggestive of pregnancy should be asked for to exclude pregnancy. The amount of blood loss and the duration of bleeding during the menstrual cycle will give an idea of the degree of menorrhagia. Associated dysmenorrhoea and dyspareunia will suggest a local pathology. Bleeding from other sites will suggest haematological disorder. Any emotional disturbance of physiological stress may be suggestive of hypothalamic disturbance.

A **general physical and systematic examination** will help to rule out any systemic disease.

An **abnormal pelvic examination** will help detect any ovarian or uterine tumour or pelvic inflammatory disease which may cause menorrhagia.

In a young girl with puberty menorrhagia if there is no bleeding disorder, a **rectal examination** should be done to rule out any functional ovarian tumour causing menorrhagia.

### **Dysmenorrhoea**

Dysmenorrhoea is defined as painful menstruation. It is classified into two main types :

- 1) **Primary or spasmodic dysmenorrhoea**, which usually occurs in young women after few months to two years after menarche in the absence of any pelvic pathology.
- 2) **Secondary or congestive dysmenorrhoea**, which occurs in older women and is usually associated with some pelvic pathology like pelvic inflammatory disease, uterine fibromyoma, adenomyoma, polyps, endometriosis or acquired cervical stenosis. Rarely it may be seen in younger girls due to obstruction to the menstrual flow resulting from some Mullerian duct anomaly.

#### *Primary Dysmenorrhoea*

This is commoner type of dysmenorrhoea. Most women have occasionally suffered from it. It usually starts on the first day of menstruation. It may last for a few hours to 1-2 days. The pain is spasmodic or colicky in a nature. It is hypogastrium and low back and may radiate to thighs. These girls give a history of scanty flow in the beginning and once the blood flow is established usually the pain is relieved. The intensity of pain varies. Severe incapacitating pain occurs in few girls which necessitates confinement to bed and absentation from normal work. It may be associated with nausea, vomiting and a fainting attack. Spasmodic dysmenorrhoea in most women tends to be cured after child birth.

#### *Etiology*

The pain is due to spasm of the uterine muscle, which is sufficiently intense to cause ischaemia. The cause of muscle spasm is not known. Multiples factors may play a role.

- 1) **Prostaglandins:** Dysmenorrhoea occurs only when ovulation has taken place. Anovulatory cycles are painless. PGF<sub>2</sub> alpha under the influence of progesterone is released just before and during menstruation and its concentration in the uterus is high. It causes uterine contractions and expulsion of the shed endometrium. PGF<sub>2</sub> alpha is also responsible for the associated symptoms like nausea, vomiting, headache, bowel and bladder irritability. The administration of PGF<sub>2</sub> alpha in normal women can produce many of the symptoms associated with dysmenorrhoea and prostaglandin inhibitors will relieve these symptoms.
- 2) **Cervical stenosis:** Although organic stenosis of the cervix can cause dysmenorrhoea, this is rare entity. Usually there is no obstruction at the level of cervix. Dilation of the cervix is sometimes performed to treat dysmenorrhoea. The relief of pain after child birth supports this hypothesis.
- 3) **Nerve pathways:** The symptoms are also attributed to cervical afferent nerve stimulation. The increase in vasopressin secretion resulting in uterine ischemia causing pain has also been observed by some.
- 4) **Hormones:** The suppression of ovulation and thus progesterone production resulting in relief of symptoms suggests the involvement of progesterone in increasing pain through its action on blood vessels, myometrium and endometrium. Progesterone also causes a narrowing of the cervical canal.
- 5) **Psychological factors:** Although spasmodic dysmenorrhoea is often described as psychosomatic, it is wrong to state that all these patients are neurotic. Girls with fear phobia, emotional instability and sexual problems are predisposed to pain. Also some girls may have a low threshold of pain.
- 6) **Smoking:** aggravates the symptoms.
- 7) Dysmenorrhoea is also common in women wearing an **IUCD** due to increase in prostaglandin release and its stimulating effect on the uterus.

**Secondary Dysmenorrhoea**

The clinical picture is different from primary dysmenorrhoea. It usually occurs in older women after years of painless periods. The pain starts about a week before the menstruation and persists during the menstruation. The pain may be dull ache in lower abdomen, back and sometimes extending to the thighs or it may be moderate in intensity. In endometriosis the pain is usually progressive. If there is a submucosa it may also be associated with spasmodic colicky pain. Other symptoms due to existing pelvic pathology like dyspareunia, infertility and menorrhagia may also be associated. Rarely diarrhoea may occur. Abdominal and pelvic examination will reveal abnormal signs of conditions responsible for secondary dysmenorrhoea. Laparoscopy has been a useful tool to reach accurate diagnosis in these cases.

**Treatment of Primary Dysmenorrhoea**

Proper guidance and explanation at the onset of menstruation, rest, relaxation, local heat and exercises are helpful. Attention should be given to the family background and an effort should be made to find out if there is any emotional stress. Psychotherapy may help the patient. **Analgesic drugs** like aspirin, codeine or dextropropoxyphene hydrochloride with acetaminophen are prescribed. Care should be taken to avoid habit forming drugs like morphine, pethidine, pentazocine and diazepam.

**Antispasmodic** drugs in combination with analgesics are given in more severe cases.

**Antiprostaglandins** like mefenamic acid 500 mg or indomethacin 50 mg can be given three times a day. These diminish myometrial contractions. The most effective treatment is to suppress ovulation. **Combined oral contraceptive pills containing** 30 µg of ethinyl oestradiol and 1 mg of norethindiol acetate can be given from the 5<sup>th</sup> to 25<sup>th</sup> day to girls who are not relieved with analgesics, antispasmodics and antiprostaglandins. These also regularize the menstrual cycles and build up confidence in the patient. Contraindications and risks of pills should be taken care of. **Calcium channel blockers** have also been used for some with favourable results.

Dilation of cervix was previously done for spasmodic dysmenorrhoea but few patients benefited for long. It is normally not recommended. **Sympathectomy** is also done as a last resort. The superior hypogastric plexus carries afferent fibers from uterus. It lies behind the parietal peritoneum in front of the fifth lumbar vertebra between the two common iliac vessels. The plexus is exposed and divided.

**Secondary Dysmenorrhoea:** Treatment is of the underlying pathology. Analgesics and antiprostaglandins can be used in association.

**Premenstrual Tension**

This is different from dysmenorrhoea. There is premenstrual discomfort in the lower abdomen, back and in the breasts. There may be bloating of the abdomen, accompanied by slight weight gain of 1-2 kg. This is due to salt and water retention due to increased anti-diuretic hormone secretion from the posterior pituitary. The retention of fluid may also be ovarian steroids. The onset of menstruation brings relief. Premenstrual tension is accompanied by varying degree of irritability, depression, emotional instability and sometimes headache and migraine. These symptoms become worse if there is any emotional stress.

**Treatment**

Psychotherapy will help a few patients. Diuretics like frusemide 40 mg daily can be given for a week before menstruation. If necessary diazepam 5 mg daily can be added. Oral progestogens like norethisterone 5 mg thrice daily or dydrogesterone 10 mg twice daily from the 16<sup>th</sup> to 25<sup>th</sup> day of the cycle will also be helpful.

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**3.7 TUBERCULOSIS OF THE GENITAL TRACT**

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The tuberculosis of the genital tract is commonly found. The infection is often chronic and secondary to lung infection. The infection may also occur from male partner who has tuberculosis epididymitis. The fallopian tube is the most common site of initial infection in the pelvic organs.

Treatment of tuberculosis of the genital tract should be similar like that of pulmonary tuberculosis.

**Role of Nurse in Management of Infection of Genital Tract**

- Reorganize the signs and symptoms of the Pelvic Inflammatory Diseases. Refer for early diagnosis and treatment.
- Educate women about causes of genital tract infection and source of infection.
- Suggest measures like personal hygiene and sexual hygiene.
- Take precautions during abortion and delivery to prevent further spread of infection.
- Explain importance of regular treatment of any conditions in either of the partners as it is also transmitted from partners.

**Check Your Progress 3**

- 1) List the main causes of Pelvic Inflammatory Disease.  
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- 2) Explain role of Nurse in management of genital tract infection.  
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### 3.8 NON-INFLAMMATORY CONDITIONS OF GENITAL TRACT

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Common conditions affecting genital tract affect internal and external genital organs. Here we will discuss the ones which are commonly reported.

**Cervical Erosion**

Cervical erosion is a common problem. In this condition when in an adult women, the stratified epithelium, which normally covers the vaginal portion of the cervix is replaced by columnar epithelium, which is continuous with that of the cervical canal but is often found in association with the taking of oral contraceptives. An erosion is not an ulcer which the word means. Chronic cervicitis is sometimes found in association with an erosion. Most erosions are not infected.

Women with cervical erosions may have no complains. Mostly those who have may complain of mucoid discharge. This may start after delivery or may also be associated with use of oral contraceptives. The brown coloured intermenstrual discharge or slight postcotial bleeding may be noticed. During pregnancy slight bleeding from an erosion may lead to suspicion of placenta praevia.

Pain is not a sign of erosion. It is also not associated with any symptom like backache or dyspareunia.

**Treatment**

Erosion, which is diagnosed during routine examination should not be treated unless causing any trouble. If discharge is reported, cervical smear can be taken for further investigation.

If the woman is taking oral contraceptives and complains of discharge and is found to be having erosion another contraceptive should be advised, if erosion is found during pregnancy, it is not treated, it resolves on it's own after delivery. If the discharge is troublesome, the erosion is treated with the help of laser therapy or thermal cauterization with diathermy.

**Haematometra**

This is a condition in which, blood collects in the uterine cavity causing obstruction in the genital tract or below the level of cervix. Haematometra may occur due to vaginal atresia or absence of vagina. A functioning rudimentary horn or one half of a double uterus may become distended with collection of menstrual blood because it does not communicate with the vagina. It may also be caused due to stenosis of the cervix or of the lower part of the uterus caused by operations, biopsy, cervical cauterization or vigorous curettage.

This may also be caused due to obstruction to the flow of menstrual discharge. There will be apparent amenorrhoea with discomfort at monthly intervals. After menopause it may occur when bleeding is from growth rather than from endometrium.

**Treatment**

Haematometra is associated with a haematocolpos and is evacuated by incision of the obstructing membrane. When functioning uterus is there and absence of vagina is leading to blood collection, surgical correction is done by constructing a new vagina to connect to the uterus. If stenosis is the cause simple dilatation of cervix is needed.

**Nursing Management of Non-inflammatory Conditions of the Genital Tract**

Advise women about early reporting of any abnormal signs or symptoms.

Personal hygiene to prevent further infection.

Regular checkup or follow treatment if any abnormalities are reported.

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**3.9 SEXUALLY TRANSMITTED DISEASES**

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Sexually transmitted diseases are also leading to gynaecological problems among women and also a major public health concern. Commonest, which occur more frequently are chlamydial infection, non specific genital infections, genital warts, gonorrhoea, herpes genitalis, syphilis, chancroid and granuloma inguinale. Other infections which are transmitted through sexual contact include candida albicans, trichomonal, human immunodeficiency virus and Hepatitis B.

All these sexually transmitted diseases are transmitted through infected partner and early diagnosis and specific treatment is important in prevention of further complications. Since sexually transmitted diseases are common in high risk groups where there are multipartners so it is important to do contact tracing to treat the original source of infection. Health education and creating awareness about the disease and spread of the disease is important.

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**3.10 DISPLACEMENT OF UTERUS**

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**Prolapse Uterus**

The descent of the uterus and the vagina from its normal position is known as prolapse. The cause of prolapse is difficult to understand without knowledge of the anatomy of the pelvic floor and the ligamentary supports of the uterus and the vagina. (Review the anatomy of reproductive system). Moreover, the treatment is based upon attempts to restore normal anatomical relations. A retroverted uterus predisposes to prolapse as the uterus lies in the axis of the vagina and hence the descent becoming easier if the uterine supports become weak.

**Chief Supports of the Uterus****1) Condensations of endopelvic fascia:**

- a) Uterosacral ligament,
- b) Transcervical (Mackenrodt's) ligaments, and
- c) Pubo cervical ligament.

Of these, the uterosacral and transcervical ligaments play an important role.

- 2) **Pelvic diaphragm** formed by the levator ani muscle.
- 3) **Perineal body** and the superficial perineal muscles.

The vagina is mainly supported by the vaginal sheath which is a part of the visceral pelvic fascia, and the muscles of the pelvic floor.

Relaxation or weakening of these results in displacement or hernia, which is progressive in nature. Surgical restoration of the anatomical alternations is the only method for permanent relief.

### Etiology

Injury during child birth is generally implicated as the most important factor, but sufficient emphasis must also be given to musculofascial atony which occurs and increases after menopause.

### Predisposing Factors

- a) **Congenital or developmental weakness of the supports of the uterus:** It causes a nulliparous type of prolapse. Congenital weakness of supports of uterus is evidenced by a history of easy labours and strong familial incidence. It may be seen in young virgins with spina bifida occulta and split pelvis. The vaginal portion of the cervix is elongated and is the differentiating feature from acquired prolapse where the supra vaginal portion of the cervix elongates. There is no cystocele or rectocele. The term nulliparous is a misnomer as this type of prolapse may also be seen in multiparas and after menopause.
- b) **Acquired**
  - 1) **Childbirth injuries :** The delivery of a child results in injury to the uterosacral and cardinal ligaments, laceration and separation of the levator ani and perineal muscles and thus causes weakness of the uterine supports. Prolonged distention or overstretching of the vagina in the second stage of labour causes stretch and weakness of the vaginal sheath and results in the vaginal wall prolapse. The application of forceps before full dilation of the cervix, unrepaired tears or laceration of the perineal body and passage of a large baby through the birth canal will also predispose to prolapse.
  - 2) **Inadequate puerperal rehabilitation.**
  - 3) **Rapid succession** of pregnancies when the tissues do not regain their original tone before the next pregnancy occurs.
  - 4) Atrophy of supporting tissues at the **climacteric** due to lack of oestrogens.
  - 5) **Poor abdominal musculature** leads to visceroptosis.

Uterine prolapse may be aggravated due to a pelvic tumour, ascitis, asthma and chronic bronchitis. These predispose by raising the intra-abdominal pressure. Rarely sacral anomalies may contribute.

### Degree of Uterine/Uterovaginal Prolapse (Malpas Classification)

**First Degree:** The descent of the uterus into the vagina upto the introitus. (Fig. 3.1)



Fig. 3.1: Uterine prolapse

**Second Degree:** The cervix protrudes through the introitus to a varying degree, the fundus of the uterus is still in the vagina (Fig. 3.2).

**Third Degree:** The entire uterus comes below the introitus. The whole vagina or at least its anterior wall is inverted. This is also described as procidentia.

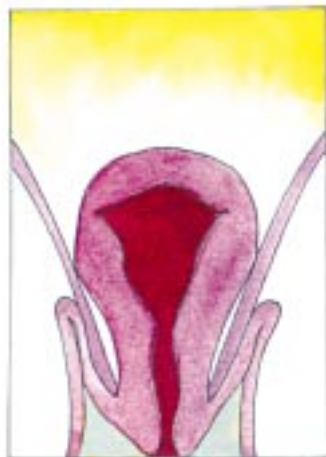


Fig. 3.2: Uterine prolapse

### Symptoms

- 1) Discomfort
- 2) Discharge
- 3) Backache
- 4) Urinary symptoms
- 5) Rectal symptoms

### Treatment

**Palliative:** It is done in situations where surgery is not advisable as in pregnancy, puerperium, or in women with severe medical disorders which contraindicate surgery. A ring pessary made of polyethylene is preferred over contraindicated surgery. The correct size of the pessary is the largest size which the patient can tolerate without discomfort, and of which she is unaware after wearing. The pessary is compressed into an ellipse and guided through the introitus. The index finger guides the upper end in the posterior fornix so that cervix lies in the ring and the anterior end is allowed to rest above the pubic symphysis. After insertion the patient is asked to strain to see if the pessary remains in position. The patient is advised to take vaginal douche and come for regular check up and change of pessary after every three months. The long term use of pessaries can lead to extensive vaginal discharge, vaginal ulcerations and even carcinoma. Hence the pessary cannot be used as a permanent cure.

### Operative Treatment

**Preoperative Assessment:** General health of the patient is evaluated. Any existing predisposing factors are treated prior to surgery, coexisting urinary tract infection is treated.

The type of operation for prolapse depends on individual features. There is no fixed and the choice of operation is based on the age of the patient, parity, presence of associated abnormalities and the type and degree of prolapse. Perineorrhaphy is however almost always performed to reduce the dimensions of the hiatus urogenitalis.

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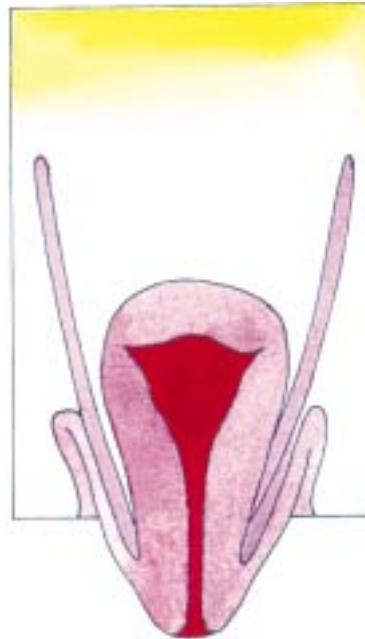
## 3.11 GYNAECOLOGICAL TUMOURS

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Gynaecological tumours are in the form of cyst of different parts of genital tract. These are benign tumours or malignant tumours, carcinoma of vulva, urethra and vagina may require radical surgery and follow up visits for radiation because surrounding tissues have low tolerance. The prognosis depends on the stage at which the growth is first treated and is worse if there is involvement of glands.

### Tumours of Uterus and Cervix

Fibromyomata are the commonest neoplasms of the uterus and one of the most common tumour of the human body. These arise in the muscular wall of the uterus and cervix and vary in size from minute seedling growth to enormous masses which occupy nearly the whole of abdomen. These are often multiple and developing near the peritoneal or



**Fig. 3.3: Uterine prolapse**

endometrial surfaces tend to project more and more towards these surfaces and may become sub-peritoneal or sub-endometrial.

Projections towards the surface of the cavity of the uterus may continue until the covering of the uterine muscle becomes so thin that tumour is extruded through it and then is covered only by peritoneum or endometrium.

#### **Types of Fibromyomata**

Fibromyomata arise more often in the body of uterus than cervix. These are:

- Intestinal fibromyomata
- Subserosal fibromyomata
- Subendometrial fibromyomata
- Cervical fibromyomata

**Intestinal Fibromyomata** begin as small nodules in the myometrium. This results in increase in size of the uterine body due to increasing size of nodules. With distortion and elongation of uterine cavity there is increased menstrual loss.

**Subserosal Fibromyomata** are also in varied sizes and are usually multiple. These also may range from small nodules on the surface of uterus to masses weighing 20 kg or more. Subperitoneal tumours tend to grow up into abdomen and during manual examination the tumour seems to be separate from uterus and feels like ovarian tumour.

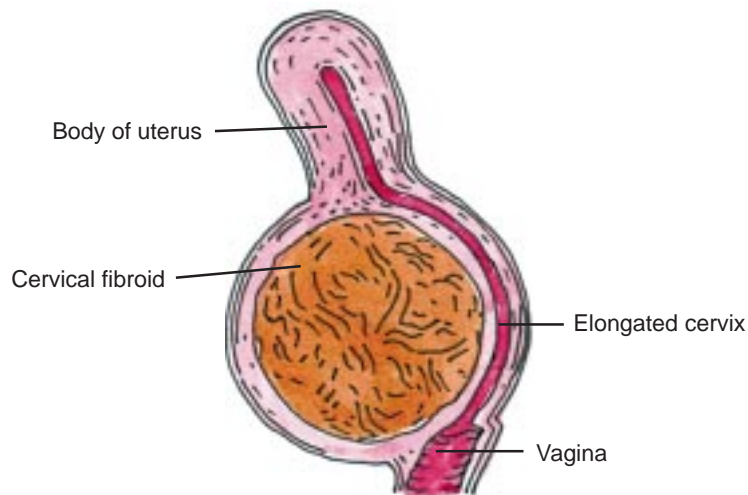
**Subendometrial Fibromyomata:** Some interstitial tumours are extruded towards the uterine cavity. At first these are still encapsulated in layer of the muscle, but this becomes progressively thinner and is covered by endometrium. The uterus contracts in an attempt to expel the tumour and the tumour may be extruded until it becomes polypoid. Uterine contractions dilate the cervix and expel the polyp through it. The result is further elongation of the pedicle so that the blood supply of the tumour becomes inadequate with a liability to necrosis and infection of the tumour.

**Cervical Fibromyomata:** Only two percent of the fibromyomata arise in the cervix. Cervical tumours are usually single although these may be other tumours in the body of the uterus. These cause distortion and elongation of cervical canal and displace the body of the uterus upward, a large cervical fibromyomata may cause retention of urine from elongation and distortion of the urethra.

#### **Aetiological Factors**

Development of fibromyomata is related to the action of oestrogens. These arise during the period of menstrual activity but rarely give rise to symptoms before the age of 25 years.





**Fig. 3.4: Diagram to show the relationships of a cervical fibromyoma**



**Fig. 3.5: Diagram to show the positions which fibromyomata may occupy. 1, Subserosal; 2, interstitial; 3, subendometrial (submucosal); 4, polyp**

Usually these do not originate once the menstruation has ceased and tend to shrink after the menopause unless the woman takes hormone therapy.

These are mostly found among nulliparous women. Once these are developed these tend to favour infertility, miscarriage, possibility of distorting the uterus and producing changes in the endometrium.

### Symptoms

Uterine fibromyomata may not cause any symptoms. These are mostly discovered during routine examination. Some women may complain of:

- Abdominal enlargement
- Local discomfort
- May or may not complain of pain
- Feeling of weight
- Menorrhagia
- Frequency or retention of urine
- May lead to abortion or obstructed labour

### Treatment

Small tumour causing no symptoms do not require treatment but regular periodical examination to see if the tumour size increases or any symptoms arise. Once menopause is reached fibromyomata cease to grow.

Surgical intervention is indicated in cases with:

- Heavy and prolonged bleeding
- Large tumour even if these do not cause any symptoms
- Possible malignant change, such as tumour which grows after menopause
- Retention of urine
- Tumours which may obstruct labour

Surgical interventions may include:

- Abdominal myomectomy
- Vaginal myomectomy
- Endoscopic myomectomy
- Abdominal hysterectomy
- Vaginal hysterectomy

Women undergoing surgery require preoperative care. Mostly operations performed for gynaecological problems are minor such as dilation and curettage, for investigation, laparoscopy, abdominal operations or vaginal operation. As a nurse you have important role to play in preoperative care of such patients.

**Check Your Progress 4**

- 1) List the common non-inflammatory diseases of the genital tract.  
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- 2) Which organs of genital tract are common affected by tumors?  
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- 3) List the signs and symptoms of Uterine Fibromyomata.  
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### 3.12 PRE-OPERATIVE CARE

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**Admission**

The patient is usually admitted 48 hours before surgery in order to ensure that she has good rest. Nurse can help her at this time by establishing a rapport with her in order that she can trust her enough to ask questions which vary personal in nature which will also be supportive postoperatively. A calm and orderly atmosphere is invaluable in establishing the confidence of the patient and her husband or family members. Consent for operation from relatives is taken.

A complete general and local examination is done and arrange for pre anaesthetic checkup.

Examination and investigations include:

- Midstream specimen of urine if urinary infection is suspected.
- High vaginal swab if vaginal discharge is present to treat with appropriate antibiotics
- Hb level
- Blood group if transfusion is to be given
- Chest X-Ray
- Vital signs like temperature, pulse, respiration.

Active and passive exercises both for preoperative and postoperative period are taught to the patient individually so that she can do after operation and prevent further complication and tone of weakened pelvic floor muscles can be improved. Smoking is discouraged if cough is present. Inhalation may be helpful in loosening the secretions.

### **Diet**

Adequate hydration preoperatively is useful in preventing postoperative shock. Adequate diet supplemented by vitamin C helps in tissue healing post operatively. Women having vaginal operations should be low residual diet to have empty bowel during surgery.

### **Hygiene and Shaving**

Bath is given daily with antiseptic or soap, special care is taken to clean local area. Pubic hair is removed by shaving or abdominal shave may be done as advised.

Vaginal douche is performed at times may be advised to prevent infection.

Preparation of vagina by painting with antiseptic lotion.

### **Immediately before operation:**

- Pre medication as advised.
- With holding food if general anaesthesia
- Change to operating gown.
- Remove dentures
- Remove jewellery
- All details to be recorded in patient's sheet
- Patient's identification to be checked and written as wrist label or written on skin.
- All reports of investigations and X-Rays to accompany the patient to operation theatre.

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## **3.13 POST-OPERATIVE CARE IN GYNAECOLOGICAL SURGERY**

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The nurse who receives the patient from theatre needs to ascertain that she knows the exact condition of patient for whom she is caring. She needs to understand specific care to be given to the particular patient.

Information to ask for should include name of patient, type of operation, drugs prescribed and administered, any particular problems encountered and any complication to be looked for.

Observation should be made for:

- Blood loss, wound dressing
- Catheter or drainage tube
- Intravenous infusion
- Vaginal pack

Receive the patient on a clear bed and place in left lateral position and check if airway is not obstructed.

Following additional observation are made and recorded.

**Skin** — colour, cyanosis, pallor and calmness.

**Respiration** — rate, volume and any gurgling sounds which indicate obstruction of airways.

**Pulse** — volume, rate or any tachycardia.

**Temperature** — prevent cold and check pyrexia.

**Blood Pressure** — sudden or gradual fall in blood pressure.

These observations should be made at regular interval and recorded until the patient is stable with in normal limits.

Make patient comfortable, alleviate pain and promote sense of well being by helping to change her own clothes, face wash and sips of water. Encourage to move legs and continue with breathing exercises.

Local area or wound area care with aseptic technique. Vulval pad should be observed and replaced. Any severe loss of blood should be reported. If abdominal wound, observe for any soaking of dressing.

### **Care of Bladder**

Special care of bladder is vital for gynaecological surgery because of close proximity of the urethra specially for vaginal operations. Fluid intake and output chart should be maintained in order to check urinary system has resumed normal function. Any retention or any abnormality should be reported. If there is in dwelling catheter as in most vaginal operations, the clear urine will flow shortly after patient return to the ward. This must be checked frequently because kinking of catheter or tubing causes back pressure and harmful distention as well as discomfort. A vulval toilet should be performed to help the patient feel fresh, use swabs with antiseptic lotion. Each swab should be used once only firm above downward movement and from labia majora inward to labia minora and vestibule. Gloves or forceps may be used.

### **Diet**

Small servings of light diet may be given after 24 hours. After abdominal surgery this should be gradually increased to full diet rich in protein by about 4<sup>th</sup> day. After vaginal surgery diet should be low residue for the first three to four days and full diet resumed once the normal bowel action starts. Adequate fluid intake should be maintained.

### **Care of Bowel**

During anaesthesia, peristalsis is reduced with subsequent delay in passage of faeces, which mostly results in abdominal distention till normal peristalsis is resumed. Patient becomes apprehensive about first bowel action as she anticipates pain due to strain on sutures. Proper explanation and if required glycerine suppository may be used.

### **Urine Output**

Urinary output becomes normal within 48 hours of operation or removal of an indwelling catheter. Careful observation, accurate recording and interpretation of fluid charts are essential to identify problems. If the patient complains of burning at the onset of micturition, the mid stream specimen of urine should be collected and sent for investigation. If urine is infected a course of appropriate antibiotics with high fluid intake will help the patient.

### **Care of Abdominal Wound**

If drainage tube has been inserted to prevent formation of haematoma is removed after 24 hours as per instruction of the surgeon.

Dressing is mostly removed and plastic spray as applied to enable patient to take bath. Sutures are removed alternate ones usually and alternate are left for an extra day. Wound should be clean and left dry and open.

### **Perineal Sutures**

The perineal suture line should be left as clean as possible. If discomfort is severe an anaesthetic gel is applied around the urethral orifice and over suture line to give relief. Sitz bath in antiseptic lotion is comforting. Because of rich blood supply the perineum is healed by 5<sup>th</sup> day and sutures mostly used are chronic catgut which are dissolved.

Insertion of vaginal pessaries are sometimes postoperatively for preventing infection or oestrogen pessaries are advised for post menopausal women. Patient can be taught right way of insertion.

### **Complications after Gynaecological Surgery**

Any complications of an anaesthetic or, of general surgery is possible. Some of the complication which may occur after gynaecological operations or in general surgery are:

- Respiratory failure

- Shock
- Post operative vomiting
- Abdominal distention
- Paralytic ileus

#### Later Complications

- Chest infection
- Wound haematoma
- Local infection
- Burst abdomen
- Deep vein thrombosis
- Pulmonary embolus

Complications which are specific to gynaecology surgery are:

- Vaginal bleeding
- Pelvic haematoma
- Urinary complication
- Vaginal fistulae

These complications should be prevented if it occurs the management may depend on extent of problem and effects of these complications. Follow up visits are essential for prevention of these complications.

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### 3.14 LET US SUM UP

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In this unit we have discussed common gynaecological problems in different stages of life of women. We have learnt different problems which women face related to reproductive organs. Most of these problems are related to infection or inflammation of reproductive organs. Some problems which are related to growth or dysfunction of the reproductive organs, may also require surgical intervention. You as nurse have an important role to play during pre and post operative care of women undergoing gynaecological surgery. Appropriate and proper care can prevent complications which may arise after surgery.

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### 3.15 ANSWERS TO CHECK YOUR PROGRESS

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#### Check Your Progress 1

- 1) ● Vaginal Discharge
  - Vaginitis
  - Trichomonas Vaginitis
  - Gardnerella Vaginalis
  - Atrophic Vaginitis
  - Chemical Vaginitis
- 2) a) ovulation; premenstrual; pregnancy.  
b) erythematous; congested.  
c) vagina

#### Check Your Progress 2

- 1) ● Pelvic pain
  - Dyspareunia
  - Backache
- 2) It is a condition when uterus becomes distended with pus as a result of obstruction of cervical canal either by carcinoma of cervix or by endocervical growth or by carcinoma in the lower part of the body.

- 3) Common signs and symptoms are:
  - Blood stained purulent discharge.
  - Abdominal pain
  - Fever may be present
  - Uterus size increase
  - Uterus may also be felt tender
- 4) ● Drainage by dilation of cervix or by drainage tube.
  - Hysterectomy may be performed if it occurs.

**Check Your Progress 3**

- 1) ● Infection through vagina or other reproductive organisms
  - Common organisms are: streptococci, staphylococci
  - Gonococcal infection
  - Escherichia coli through intestinal tract
- 2) ● Education about causes of genital tract infection
  - Recognize signs and symptoms for early diagnosis and treatment
  - Refer cases as diagnosed
  - Education for personal and sexual hygiene
  - Proper management and aseptic technique for abortion
  - Treatment of both partners if infection is through sexual contact.

**Check Your Progress 4**

- 1) a) Cervical Erosion  
b) Haematometra
- 2) Cyst, benign or malignant tumors may affect any part of genital tract like vagina, cervix or uterus.
- 3) ● Abdominal enlargement
  - Local discomfort
  - Feeling of weight
  - Menorrhagia
  - Frequency or retention of urine
  - May lead to abortion or obstructed labours