
Learning Outcome

At the end of the session, students should be able to:

- LO1 Relate the hormonal physiological changes of the female reproductive system to the clinical presentations

- LO2 Relate the anatomy and pathology of female reproductive organs to the physical examination and investigation findings

- LO3 Discuss the implications of endometrial carcinoma to the patient and family

Trigger Part A

Mrs. Maryam, a 64-year-old lady presented to Gynaecology Outpatient Clinic with per vaginal bleeding for 6 months. She had attained menarche at 10 years of age. She had 3 uneventful pregnancies. She claimed that she had stopped having her menses at the age of 56 years. She never underwent any gynaecological screening tests.

Trigger (Part B) – this part should be released to students at minute 30 during first session.

On general examination, she was obese with BMI of 31kg/m². There were no palpable masses on abdominal palpation. Pelvic examination revealed an atrophic vulva, vagina and cervix. No bleeding was noted. Cystocele and rectocele were present with mild descent of the cervix. Uterus was 10 weeks in size.

Ultrasound showed a bulky uterus with irregular endometrial thickness. Hysteroscopy sample revealed polypoidal growth with fluffy endometrial cavity. Histopathological examination of her endometrial biopsy showed adenocarcinoma of the endometrium. She was advised to undergo exploratory laparotomy and total abdominal hysterectomy and bilateral salphingo-oophorectomy (TAHBSO).

Points for discussion (FOR FACILITATOR ONLY)

No.	Key words	Points for discussion	Learning Outcome	Reference Page
1	Mrs. Maryam, a 64-year-old lady PV bleeding for 6 months	<ul style="list-style-type: none"> Understand the condition –PV bleeding Relate patient’s age with the chief complaint 	<i>Guided discussion point</i>	<i>Page 5</i>
2	menarche at 10 years of age 3 uneventful pregnancies stopped having her menses : age 56	<ul style="list-style-type: none"> Recall definition of menarche Discuss the significance of an uneventful obstetric history Define menopause Relate the physiological changes of female reproductive system to explain her menstrual history 	<i>LO1</i>	<i>Page 5</i>
3	<i>Guided discussion point</i>	<ul style="list-style-type: none"> Define postmenopausal bleeding List the causes of postmenopausal bleeding 	-	<i>Page 6</i>
4	She never underwent any gynaecological screening tests	<ul style="list-style-type: none"> State the gynaecological screening tests Describe pap smear procedure and its importance List the cells that can be detected in cervical smear Describe the transformation zone (TZ) 	<i>LO2</i>	<i>Page 7</i>
5	Obese no abdominal mass palpable Pelvic examination revealed atrophic vulva, vagina and cervix	<ul style="list-style-type: none"> Recall anatomy of female reproductive organs Understand the terms <ol style="list-style-type: none"> Atrophic vulva, vagina and cervix – possible reason Cystocoele - Describe its relationship to the anterior vaginal wall 	<i>LO2</i>	<i>Page 8</i>

	<p>no bleeding</p> <p>cystocele and rectocele present</p> <p>mild descent of the cervix</p> <p>uterus : 10 weeks in size</p>	<p>c) Rectocele - Describe its relationship to the posterior vaginal wall</p> <p>d) Mild descent of the cervix - Describe the anatomy of the supports of the uterus & reason of lack of support</p> <p>e) Uterus was 10 weeks size - enlarged uterus & causes</p> <ul style="list-style-type: none"> • Relate the anatomy of female reproductive organs with the examination findings 		
6	<p>Ultrasound - bulky uterus with irregular endometrial thickness.</p> <p>Hysteroscopy revealed polypoidal growth with fluffy endometrial cavity</p>	<ul style="list-style-type: none"> • Discuss the significance of ultrasound and hysteroscopy 	LO2	Page 9
7	<p>Histopathological examination of her endometrial biopsy result showed adenocarcinoma of the endometrium.</p>	<ul style="list-style-type: none"> • Recall histopathology of endometrial carcinoma • Discuss histopathological types of endometrial carcinoma • Discuss precancerous lesions of endometrial carcinoma 	LO2	Page 10
8	<p><i>Guided discussion points</i></p>	<ul style="list-style-type: none"> • Recall blood supply and lymphatic drainage of uterus and cervix • Recall endometrial carcinoma risk factors 	LO2	Page 10
9	<p>advised to undergo exploratory laparotomy and TAHBSO</p>	<ul style="list-style-type: none"> • Define hysterectomy and bilateral salphingo-oophorectomy 		
10	<p><i>Guided discussion points</i></p>	<p>i. Discuss the implication of endometrial carcinoma to the patient and family in term of emotions patient care</p>	LO3	Page 11

Discussion guide (FOR FACILITATOR ONLY)

1. Mrs. Maryam, a 64-year-old lady, presented to Gynaecology Outpatient Clinic, per vaginal bleeding for 6 months

Guided discussion point

- Understand the condition –per vaginal (PV) bleeding
PV bleeding is any blood loss through the vaginal opening. In a normal menstruating female, PV bleeding is normally her menstrual bleeding. But for a 64 years old lady, PV bleeding is abnormal thus needs further information on its frequency per months, amount of blood loss and any other associated factors.

The fact that this lady came after 6 months of having PV bleeding should raise the concern of abnormal uterine bleeding with anaemia consequences.

- Relate patient age with chief complaint

A 64 -ear-old lady is usually already stopped having her menses, thus her present problem suggestive of abnormal uterine bleeding. Further information on her menstrual cycle are needed.

2. menarche at 10 years of age, 3 uneventful pregnancies, she had stop having her menses at age 56 years old

LO1: Relate the hormonal physiological changes of the female reproductive system to the clinical presentations

- Recall definition of menarche

The age when a girl has her first menses, usually at the age ranges from 9-13 years old

- Discuss the significance of uneventful obstetric history

This indicates that the patient had a normal obstetric history indicating a normal reproductive phase.

- Define menopause

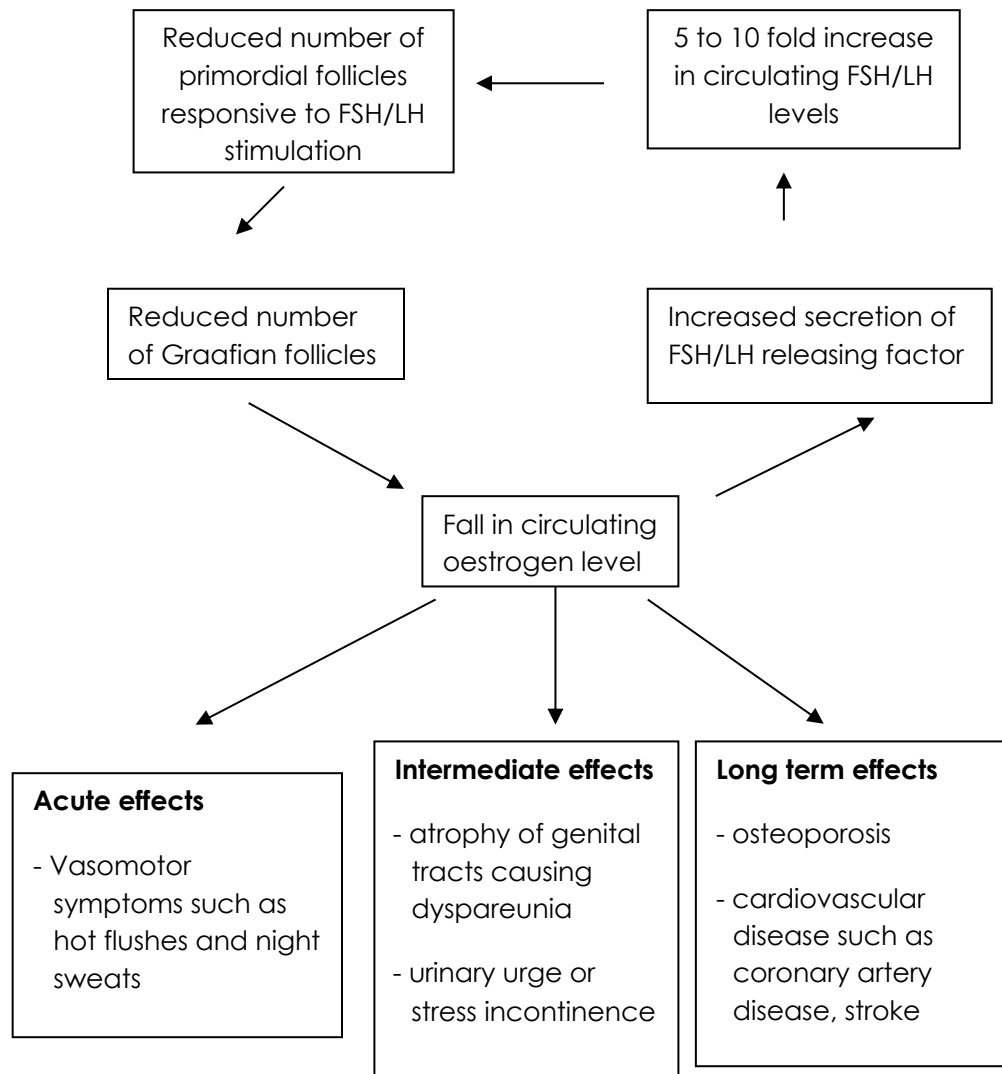
Menopause is defined as the cessation of menstruation which is normally observed at sometime between the ages of 48 and 52. It occurs as a result of ovulation failure.

In this case scenario, Mrs Maryam attained menopause at the age of 56 y.o, therefore her PV bleeding is known as post menopausal PV bleeding.

- Relate the physiological changes of female reproductive system to explain her menstrual history

Physiological change that occurs at menopause is the failure of ovulation and disturbance of pituitary-ovarian relationship (Figure 1).

Figure 1: Physiological changes in menopausal phase



3. Guided discussion point

- Define the term postmenopausal bleeding

Post menopausal bleeding is defined as per-vaginal bleeding after 6 months of menopause

- List the causes of post- menopausal bleeding

- Endometrial carcinoma
- Endometrial polyp
- Atrophic endometritis
- Cervical carcinoma
- Cervical polyps
- Cervical erosion

- g) Atrophic vaginitis
- h) Granulose cell tumour of the ovary

In this case scenario, Mrs. Maryam may be having one of the above condition, thus further investigations are required.

4. She never underwent any gynaecological screening tests.

LO2: Relate the anatomy and pathology of female reproductive organs to the physical examination and investigation findings

- State the screening test for female reproductive organ
The Papanicolaou test (abbreviated as Pap test, known earlier as **Pap smear**, cervical smear, or smear test). Pap smear is a scraping procedure to test for cervical cancer in women. A **Pap smear** involves collecting cells from the cervix
- Describe pap smear procedure and its importance
The purpose of cervical smear is to obtain a sample of cells from the cervical squamocolumnar junction which is then examined cytologically for evidence of dyskaryotic changes.

**** Students are expected to recall histology of cervical cells**

- List the cells that can be detected in cervical smear.
 - a) Epithelial cells - squamous, columnar or glandular cells from endocervix or endometrium
 - b) Metaplastic cells
 - c) Koilocytes
- Describe transformation zone (TZ)
Transformation zone is the area of the cervix and vagina that was initially covered by columnar epithelium that had undergo metaplasia and replaced by squamous epithelium. It is where the most abnormal cell changes occur

**** Facilitator may refer to diagrammatic Facilitator guide for quick reference on Pap smear**

5. Obese, no abdominal mass palpable, Pelvic examination revealed atrophic vulva, vagina and cervix, No bleeding, There were cystocoele and rectocoele, mild descent of the cervix, Uterus was 10 weeks size.

LO2: Relate the anatomy and pathology of female reproductive organs to the physical examination and investigation findings

- Recall anatomy of female reproductive organs
**** Facilitator may refer to diagrammatic Facilitator guide for quick reference**
Students are expected to recall anatomy of female reproductive organs
- Understand the term:
 - a) **Atrophic vulva**, vagina and cervix

The most possible reason for atrophy of these organs is lack of estrogen hormone.

- b) **Cystocele** - Describe its relationship to the anterior vaginal wall
Cystocele is the descent of the bladder base when the upper part of anterior vaginal wall prolapses. Anterior relationship of anterior vaginal wall is the bladder base and urethra
- c) **Rectocele** - Describe its relationship to the posterior vaginal wall
Rectocele is defined as prolapse of the rectum with vaginal wall when there is prolapse of the middle third of the posterior vaginal wall. Posterior relation of posterior vaginal wall is peritoneum of pouch of Douglas and middle half of the rectum
- d) **mild descent of the cervix** -
Descent of cervix indicate a Prolapse uterus

Describe the anatomy of the **supports of the uterus** & reason of lack of support

**** Students are expected to discuss the anatomical structures**

i. Pelvic diaphragm-levator ani muscle and fascia

The Pelvic Diaphragm (or floor) is composed of the levator ani and coccygeus muscles together with the fasciae covering their superior and inferior surfaces. It stretches across the floor of the pelvic cavity like a hammock and supports the abdominal and pelvic viscera. It is pierced by the anal canal, the urethra and the vagina and is reinforced in the perineum by muscles and fasciae of the urogenital diaphragm.

- The levator ani arises from the body of the pubis, the spine of the ischium and the arcus tendineus (a thickened band of obturator internus fascia between the above two bony landmarks). Muscle fibers from both sides are inserted into the coccyx and anococcygeal raphe, a narrow fibrous band extending from the coccyx to the posterior margin of the anus. The entire levator ani is innervated by twigs from S2, S3, and S4 (and S5), as well as from the inferior rectal branch of the pudendal nerve. The levator ani has two parts, the pubococcygeus, and iliococcygeus.
- Pubococcygeus arises from the dorsal surface of the pubis and is the more medial portion of the levator ani. An interval between the muscles from each side allows passage of the urethra, rectum and vagina. Their fibers insert into the perineal body. Some fibers pass behind the rectum to join fibers from the other side to form the puborectalis muscle or "puborectal sling".
- Iliococcygeus arises from the arcus tendineus and spine of the ischium and inserts into the coccyx and anococcygeal raphe.
- Coccygeus (or ischiococcygeus) is the other muscle of the pelvic diaphragm. It is situated just posterior to the levator ani. It arises from the spine of the ischium and the sacrospinous ligament and inserts into the coccyx and sacrum. It assists the levator ani and has a similar innervation.

ii. Cardinal ligament

Arising from the arcuate line on the side wall of the pelvis. The ligament is insert into the upper vagina and supravaginal cervix. It provides support to the uterus, but not the primary support

iii. Uterosacral ligament

posterior part of cardinal ligament arising from the sacral promontory and insert into the upper vagina and supravaginal cervix

iv. Pubocervical ligament.

Arising from the fascia over the pubic bone and passing around the bladder neck and insert into the upper vagina and supravaginal cervix.

e) Uterus was 10 weeks size -enlarged uterus & causes

Possible causes of enlarged uterus:

- i. Uterine fibroid
- ii. Carcinoma of endometrium
- iii. Adenomyosis
- iv. Uterine sarcoma

- Relate the anatomy of female reproductive organs with the examination findings

In this case scenario, physical examination findings that are consistent with lack of support of pelvic organs:

- a) Obese – even though cancer patient generally are thin or cachexic, patients with endometrial carcinoma usually presented as obese person at first.
- b) Atrophic vulva, vagina and cervix
- c) Cystocoele
- d) Rectocoele
- e) Descent of the cervix

6. Ultrasound - bulky uterus with irregular endometrial thickness, Hysteroscopy revealed polypoidal growth with fluffy endometrial cavity

LO2: Relate the anatomy and pathology of female reproductive organs to the physical examination and investigation findings

- Discuss the significance of ultrasound and hysteroscopy

In a postmenopausal lady the uterus should be atrophied and the endometrium is normally thin less than 5mm. A bulky uterus indicate an enlarged uterus. Irregular endometrium thickness indicates abnormal growth of endometrium. This two findings are suggestive of uterine pathology

Hysteroscopy uses a *hysteroscope*, which is a thin telescope that is inserted through the cervix into the uterus. Modern hysteroscopes are so thin that they can fit through the cervix with minimal or no dilation. Diagnostic hysteroscopy the hysteroscope is used just to observe the endometrial cavity (inside of the uterus.)

Polypoidal growth is uterine polyps that grow and attached to the inner wall of uterus that extend into the uterine cavity giving a fluffy appearance of the endometrial cavity.

7. Histopathological examination of her endometrial biopsy result showed adenocarcinoma of the endometrium.

LO2: Relate the anatomy and pathology of female reproductive organs to the physical examination and investigation findings

- Recall histopathology of endometrial carcinoma
**** Facilitator may refer to diagrammatic Facilitator guide for quick reference**
Students are expected to recall histopathology of endometrial carcinoma

- Discuss histopathological types of endometrial carcinoma
 - Adenocarcinoma
 - Adenoacanthoma
 - Adenosquamous carcinoma
 - Clear cell carcinoma
 - Papillary adenocarcinoma
 - Mucinous carcinoma
 - Secretory carcinoma
- Discuss precancerous lesions of endometrial carcinoma
 - Simple (cystic) hyperplasia
 - Complex (glandular) hyperplasia
 - Simple (cystic) hyperplasia with atypia
 - Complex (glandular) hyperplasia with atypia

8. Guided discussion points

LO2: Relate the anatomy and pathology of female reproductive organs to the physical examination and investigation findings

- Recall blood supply and lymphatic drainage of uterus and cervix

Lymphatic drainage of uterus	Lymphatic drainage of the cervix
<ul style="list-style-type: none"> - External and internal iliac nodes - Fundus of the uterus aortic nodes - Superficial inguinal nodes 	<ul style="list-style-type: none"> - External and internal iliac nodes - Obturator nodes - Sacral nodes - Common iliac nodes - Paraortic nodes
Blood supply of the uterus	Blood supply of the cervix
<ul style="list-style-type: none"> - Uterine artery – a branch of internal iliac artery - Ovarian artery – a branch of abdominal aorta 	<ul style="list-style-type: none"> - Uterine artery - Vaginal artery - Branch from superior vesical artery

- Recall endometrial carcinoma risk factors
Endometrial carcinoma risk factors:
 - Unopposed endogenous estrogen production due to anovulation or oestrogen producing ovarian tumour

- b) Early menarche, late menopause
- c) Nulliparity
- d) Obesity
- e) Diabetes mellitus
- f) Polycystic ovarian syndrome
- g) Pelvic irradiation

In this case scenario, Mrs Mariam has quite an early menarche and late menopause and obesity.

9. advised to undergo exploratory laparotomy and total abdominal hysterectomy and bilateral salphingo-oophorectomy.

- Define hysterectomy and bilateral salphingo-oophorectomy
Hysterectomy is the surgical removal of the uterus. When the ovaries and tubes also are removed in the course of surgery, the procedure is properly described as a hysterectomy and bilateral salphingo-oophorectomy

10. *Guided discussion points*

LO3: Discuss the implications of endometrial carcinoma to the patient and family

M: Medical condition

Mrs. Mariam is an elderly lady of 64 y.o who presented with 6 months PV bleeding and later diagnosed as having endometrial carcinoma. She was advice to undergo hysterectomy and bilateral salphingo-oophorectomy.

E: Empathy

Cancer is always linked to sufferings, pain and subsequently death. No matter how old a woman is, her reproductive organs are still a symbol of feminism, and death link makes the diagnosis even unbearable.

She might feel scared of her future health, and uncertainties of how to face her life with cancer. She might also feel being a burden to her husband and children who themselves may by now also having a family of their own.

C: Communication

Communication with expression of empathy is very important to discuss with her and her husband on the management plan. As health care team is convinced that the surgery is the best for her, the discussion must take into consideration her emotional response towards this. Surgery by itself is already scary, but the fact that it removes the feminine side of her would make it unbearable.

Counselling must be done gently and may even separate into few small discussion to allow Mrs Mariam to absorb the information.

R: Right & Respect

Mrs Maryam and her family members had the right to be informed on her condition and prognosis. Counselling should covers:

- Explanation regarding the danger of the disease which might spread to adjacent tissue and cause increase in morbidity and mortality.
- Explanation regarding the mode of treatment available in the hospital and other options of treatment which are available elsewhere.
- Giving her proper information regarding cancer treatment including the need for radiotherapy according to the stage of the disease and prognosis.
- Following treatment, the need for continuous follow up with regular examination and vault smear to detect any tumour recurrence.
- Informing the family members for support and giving out information regarding other support groups available

Even though Mrs Mariam is an old lady, she must be handled with respect in term of her feminism side. She must never be regarded as ignorant to the fact that she is a female. Similarly, her husband may be also an elderly, but when it comes to decision making of such a big matters involving surgical removal of reproductive organs, his view and understanding must also be obtained. His role as husband should not be put aside in decision making. This is to avoid conflict of informed consent for the surgery.

I: Insight

The health care team must aware of the religious and social belief and practice where husband play a major role in decision making. Other significant family members who may influenced the decision must also be looked at. This may be an educated member in the family or a dominant one.

The heath care team must also aware of family support for Mrs Mariam to comply on her treatment regime as well as on regular long term follow up and the need of admissions. Possible threat of support such as financial, care giver and logistic from house may need to be referred to social worker for assistance.

Contributors:

Content developers:

1. Dr. Wan Fadhlina Wan Adnan (Department of Obstetric & Gynaecology)
2. Dr. Hoo Pek Sung (Department of Obstetric & Gynaecology)
3. Assoc. Prof. Dr. Nor Azwany Yaacob (Department of Community Medicine)
4. Assoc. Prof. Dr. Zul Izhar Mohd. Ismail (Department of Anatomy)

Editors:

1. Dr. Mohamad Najib Mat Pa (Department of Medical Education)
2. Dr. Ahmad Fuad Abdul Rahim (Department of Medical Education)
3. Dr. Anisa Ahmad (Department of Medical Education)