

Case 2: What options do I have?



❖ Learning issues:

1. **Anatomical structures and physiological functions of the breast**
2. **Pathology and pathogenesis of breast cancer**
3. **Risk factors of breast cancer development including genetic basis of breast cancer**
4. **Interpretation of symptoms, clinical signs and investigations of a patient with breast cancer**
5. **Significance of self-breast examination for early detection of breast cancer – Do we have enough evidence?**
6. **Pharmacology of drugs used in management of breast cancer**



❖ Key information and Presenting problems:

- Amal Ahmad, a 36 year old, Housewife.
- She felt a small lump in her right breast.
- She is worried because her older sister was diagnosed with a breast cancer.
- Amal is anxious lest (afraid of) she might have cancer.



New problems and history:

She has felt a mass in her right breast during self-examination.

- She has no tenderness while examining her breast.
- No nipple discharge.
- No changes in the shape or color of the areola and nipple.
- Her fears particularly triggered after the death of her sister.
- She is not sure whether there is a real mass in her breast
- She **never had any mammogram or any other investigations**
- She got married at the age of 29 years and **she had the 1st baby when she was 30 years**
- She has breast-fed both her children till the age of 2 years.
- She is **taking oral contraceptives pills.**
- **Past medical history:** No history of chronic illnesses, hospital admission or surgery.
- **Allergy and medication:** Nil
- **Smoking and alcohol:** She occasionally smokes with her friends in parties. She doesn't drink.
- **Family history:**
 - Amal's maternal aunt was **diagnosed with breast cancer when she was 39 years old and she died because of metastasis a year later.**
 - Has three sisters, the eldest is 38 years old (who has been recently diagnosed with breast cancer and she died) and the two younger 35 years and 33 years old are healthy
 - Amal and her sisters all **had their menarche when they were approximately 13 years old**

NEW TERMS

Lump	Palpable mass
Mammogram	An X-ray picture of the breast
Mastectomy	Removal of the breast
Oophorectomy	Removal of the ovaries

Clinical examination

- She looks anxious.
- Her BMI is 32.5 (**Obese**)

vital signs

Normal

Breast Examination

- The skin overlying both breasts is normal.
- Nipples and areola look normal.
- No spontaneous or induced discharge.
- No tenderness
- No palpable mass.
- No palpable axillary or supraclavicular lymph nodes.

Chest and abdominal examination:

- No tenderness on examination of the ribs.
- Auscultation of lungs is normal.
- No palpable abdominal masses.



❖ Investigations:

1. Mammogram of left and right breasts:

- Both breasts are heterogeneously dense which is normal for her body weight.
- No obvious masses, calcification, or other abnormalities present. Follow-up in 12 months is recommended.

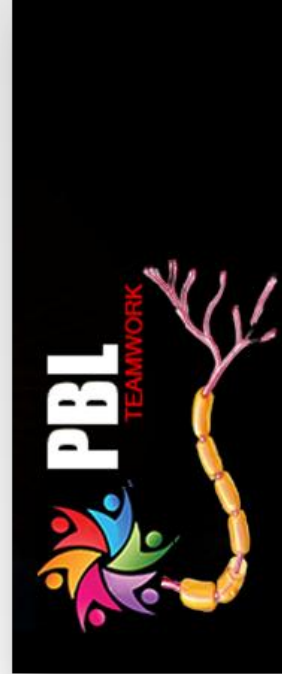
2. Ultrasound examination of the breast and ovaries:

- No abnormality detected.

3. Genetic test:

BRCA 1	Positive
BRCA 2	Negative

- 2 weeks later, Dr. Rania prepares Amal for breaking bad news. She holds the meeting in a quiet meeting room and asks the nurse not to disturb them during the meeting
- Dr. Rania explains to Amal that BRCA 1 positive **means an increased risk of developing breast and/or ovarian cancer at a younger age**
- This risk is significant with **the presence of strong family history of breast cancer** (according to Amal, It's strong: her aunt died from breast cancer + her sister was diagnosed with breast cancer)



❖ **Management:**

▪ **Dr. Rania discusses three management options:**

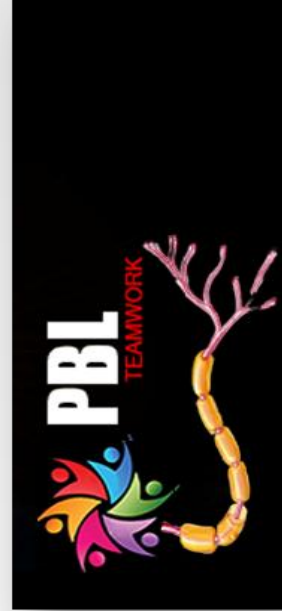
1. Annual (yearly) MRI examination + Mammography + ovarian studies + Regular self-breast examination to detect any early changes in the breast or ovaries.
 2. Bilateral mastectomy + Bilateral oophorectomy to reduce the risk for developing breast and ovarian cancer
 3. Chemotherapy for cancer prevention + meticulous surveillance (carefully monitoring) for early detection of ovarian and breast cancer
- ✓ **Amal chose to undergo bilateral mastectomy and bilateral oophorectomy (2nd option)**

❖ **Diagnosis:**

- The operation went well and Dr. Rania arranged samples for histopathology examination:
 - ✓ Her right breast shows the presence of **Intraductal carcinoma**
(Also known as **Ductal carcinoma in situ**)

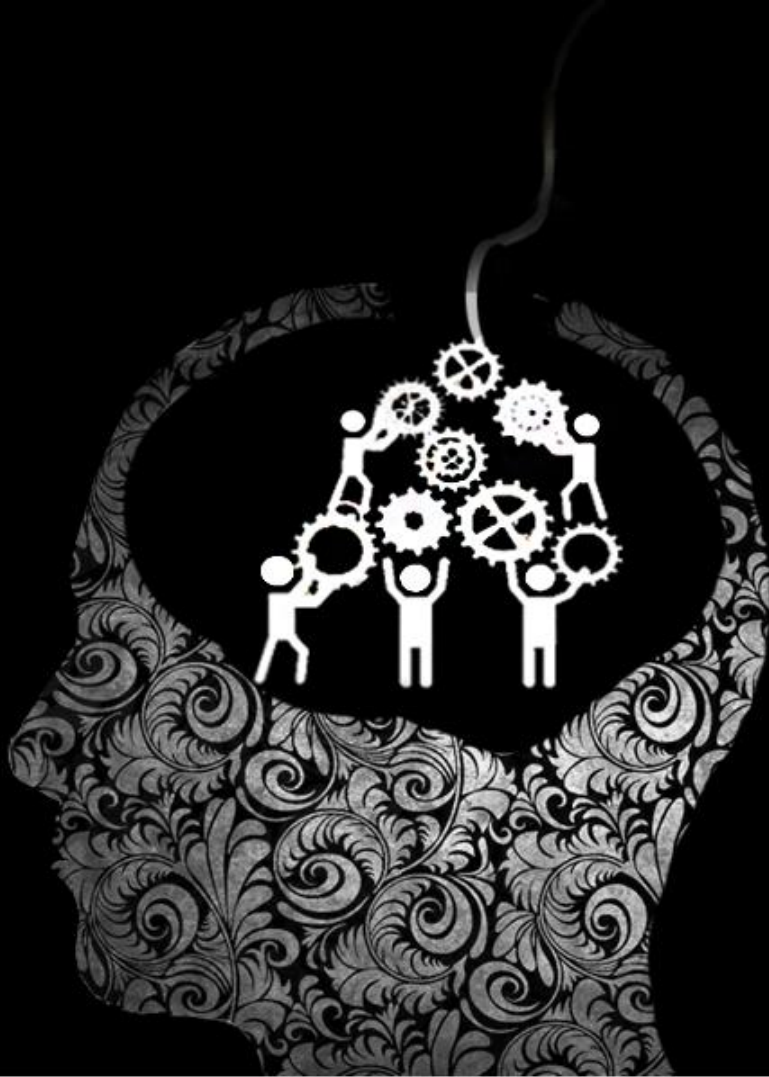
❖ **Prognosis:**

- Gradually she becomes able to overcome her fears and move on with life by supporting by her family
- She regularly review her doctor every 6 months for follow-up
- There is no evidence of recurrence of the disease



Questions

Q1: What is the diagnosis?	Q2: Mention 2 genes that predispose to breast cancer.
Intraductal carcinoma	<ol style="list-style-type: none">1. BRCA 12. BRCA 2
Q3: Why Dr.Rania asked about: <ol style="list-style-type: none">i. Menarcheii. Having previous mammogram or any other investigations	Q4: Mention 4 predisposing-factors could contribute in Amal's problem.
Because It becomes a risk factors of breast cancer when: <ol style="list-style-type: none">i. Having her menarche at early age (less than 12 years)ii. Exposure to radiation	<ol style="list-style-type: none">1. Genetic factor (family history)2. Didn't have her child before the age of 303. Oral contraceptives4. Obesity
Q5: In Amal's test, the BRCA1 mutation was positive. What does that mean?	Q6: Although the radiologic tests and clinical examinations reveal no abnormality, why has Amal had mastectomy?
Increasing developing of breast and/or ovarian cancer at a young age	BRCA1 positive + presence of strong family history which mean she has a significant risk for developing breast cancer



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