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## CASE REPORT

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## Understanding and Consulting Menopause & Chemotherapy

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### AUDIENCE:

Oncology Pharmacists, Pharmacists.

### GOAL:

The goal of this activity is to reinforce and highlight common concepts, situations, and presentations that Oncology Pharmacists will encounter on a regular basis in order to provide supportive continuing education that illustrates real-world conditions and situations.

### TARGET BEHAVIOUR:

Upon completion of this activity, participants will be able to have access to knowledge of patient consulting.

### STORY & INFORMATION:

27 years young female patient, undergoes treatment in Oncology Department with Stage IV Breast Carcinoma. The patient will take the chemotherapy treatment for first time. Medical Oncology Doctor designed to implement the patient with Cyclophosphamide + Doxorubicine protocol.

( Weight: 58 kg Height: 160 cm Body Surface Area:1.60 m<sup>2</sup> )

#### Protocol:

Cytotoxic	Dose	Route	Schedule
Cyclophosphamide	500mg/m <sup>2</sup>	iv infusion	1st day*
Doxorubicine	50mg/m <sup>2</sup>	iv infusion	1st day*

\*Repeat every 3 weeks, after fourth cure sent patient about a whole diagnos



BREAST CANCER



BEFORE TREATMENT



PROTOCOL

The Patient refuses the treatment. After a brief conversation, the patient's reason become clear, the reason was inadequate information. She was very young and never married. She read from the internet could not stay pregnant if she has chemotherapy. She read that she may have symptoms of menopause. After visiting the physician, her mind was too confused with medical terms and wanted to know weather can get pregnant or not. She realized that the chemotherapy treatment is directly related to chemotherapy drugs. She visited the Oncology Pharmacist and wanted to get information. Oncology Pharmacist examined the treatment protocol and drugs and gave information to the patient.



INADEQUATE INFORMATION

## CONCLUSION&DISCUSSION:

Menopause occurs when a woman's ovaries stop producing eggs; her menstrual periods become irregular, then stop completely; and her body decreases production of the hormones estrogen and progesterone. It begins during a woman's mid-40s or early- to mid-50s. It can also begin before a woman's 40s if cancer treatment has stopped the ovaries from working (called premature menopause). The symptoms of menopause include hot flashes, night sweats, vaginal dryness, sleeplessness, decreased sex drive, and mood swings.

Some cancer treatments may cause menopause or menopausal symptoms. Menopause caused by medical treatment is called medical (or surgical) menopause. The symptoms of medical menopause may be worse because the decrease in hormones happens quickly. Even if cancer treatment does not cause menopause immediately, it may cause menopause to start sooner.

The following cancer treatments may cause menopause:

Oophorectomy (surgical removal of the ovaries). This type of surgery is used to treat or prevent ovarian, uterine, and vaginal cancers. It causes menopause immediately because the source of estrogen and progesterone is removed.

Radiation therapy or chemotherapy. Radiation therapy to the pelvis and chemotherapy that damages the ovaries can cause early menopause. Menstrual periods may return for some younger woman after treatment, but women older than age 40 are less likely to have their menstrual periods return.

Hormonal therapy. Hormonal therapy is used to treat breast cancer that is estrogen receptor- and/or progesterone receptor-positive, meaning that cancer uses estrogen and/or progesterone to grow. Hormonal or anti-estrogen therapies include the aromatase inhibitors—including anastrozole (Arimidex), letrozole (Femara), exemestane (Aromasin)—and tamoxifen.

The drugs tamoxifen and raloxifene are used to reduce the risk of breast cancer for women who have been treated for breast cancer or who have a higher risk of breast cancer. The side effects of these drugs are similar to the symptoms of menopause. Women taking hormonal therapy who have not been through menopause may have lighter and fewer regular menstrual periods, or their menstrual periods may stop completely. A woman's menstrual periods may come back after hormonal therapy ends, but this is less likely for women who are closer to their natural menopausal age. Menopausal symptoms may come back for women taking hormonal therapy who have already reached menopause.

Certain chemotherapies can force the ovaries into retirement within a few months of treatment: This is medical menopause. Fifty percent of women younger than 35 who have CMF (Cytosan, methotrexate, fluorouracil) chemotherapy go into menopause, as do about 80% of women 35-44 and nearly 100% of women over 45. With Adriamycin chemotherapy, the risk of permanent menopause is somewhat less for women under 40, but it is similar to that of CMF for women over 40. Occasionally, chemotherapy-induced menopause is only temporary.

Medicines can be used to temporarily stop the ovaries from making estrogen. Two of the most common ovarian shutdown medicines are:

- Zoladex (chemical name: goserelin)
- Lupron (chemical name: leuprolide)

Zoladex and Lupron are both luteinizing hormone-releasing hormone (LHRH) agonists. These medicines work by telling the brain to stop the ovaries from making estrogen. The medicines are given as injections once a month for several months or every few months. Once you stop taking the medicine, the ovaries begin functioning again. The time it takes for the ovaries to recover can vary from woman to woman.

Hot flashes can get worse when tamoxifen (or other anti-estrogen therapies) is added after chemotherapy. Although these drugs don't cause menopause, they can mimic some of the symptoms, which may then continue for some time.



CONSULTANT PHARMACIST

## Which of the following information given by the Oncology Pharmacist, the most correct?

a) I strongly encourage you to talk with your Oncologist about your specific medical condition and treatments. The information given by me, is meant to be helpful and educational, but is not a substitute for medical advice.

b) The most common symptoms of menopause are hot flashes, emotional changes, sexuality changes, and weight gain. The symptoms will vary from person to person. There are treatments available to assist in managing these symptoms, but they must be supervised/ prescribed by a doctor.

c) Don't carry about menopause. There is always a chance that you can get pregnant as long as you are menstruating. While on chemotherapy, your menstrual cycle may become irregular. As a result, you may never quite be sure where you are in your menstrual cycle and your period may take you by surprise. Some of your menstrual cycles may be non-egg producing,, but you cannot rely on this. Even if your periods seem to have stopped, you should use a safe and effective method of birth control during and for 4-8 weeks after chemotherapy has ended.

d) Menopause is a normal stage in a woman's life. The term menopause is commonly used to describe any of the changes women experience either before or after she stops menstruating. Technically, the diagnosis of menopause is not confirmed until a woman has not had her period for six consecutive months. During chemotherapy, women may have preliminary signs of menopause such as irregular menstrual cycles or her periods may disappear. Some medications used in chemotherapy may also cause damage to the ovaries, resulting in menopausal symptoms or menopause. Menopause may be immediate or delayed, permanent or temporary when triggered by chemotherapy. Unfortunately, there is no way to accurately determine how or when chemotherapy or other cancer treatments will affect your menstrual cycle. However, menopause is rarely a sudden response to chemotherapy. When chemotherapy treatments begin, you may notice some menopausal symptoms, but they are usually delayed for several months after treatment is started. This is natural. There is always a chance that you can get pregnant as long as you are menstruating. While on chemotherapy, your menstrual cycle may become irregular. As a result, you may never quite be sure where you are in your menstrual cycle and your period may take you by surprise. Some of your menstrual cycles may be non-egg producing,, but you cannot rely on this. Even if your periods seem to have stopped, you should use a safe and effective method of birth control during and for 4-8 weeks after chemotherapy has ended. The symptoms will vary from person to person. There are treatments available to assist in managing these symptoms, but they must be supervised/ prescribed by a doctor.

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