

بسم الله الرحمن الرحيم

(وَسْأَلُونَكَ عَنِ الرُّوحِ قُلِ الرُّوحُ مِنْ أَمْرِ رَبِّي وَمَا أُوتِيتُمْ مِنَ الْعِلْمِ إِلَّا قَلِيلًا)

صدق الله العظيم (الاسراء 85)



BREAST CANCER

WITH

PREGNANCY

BY

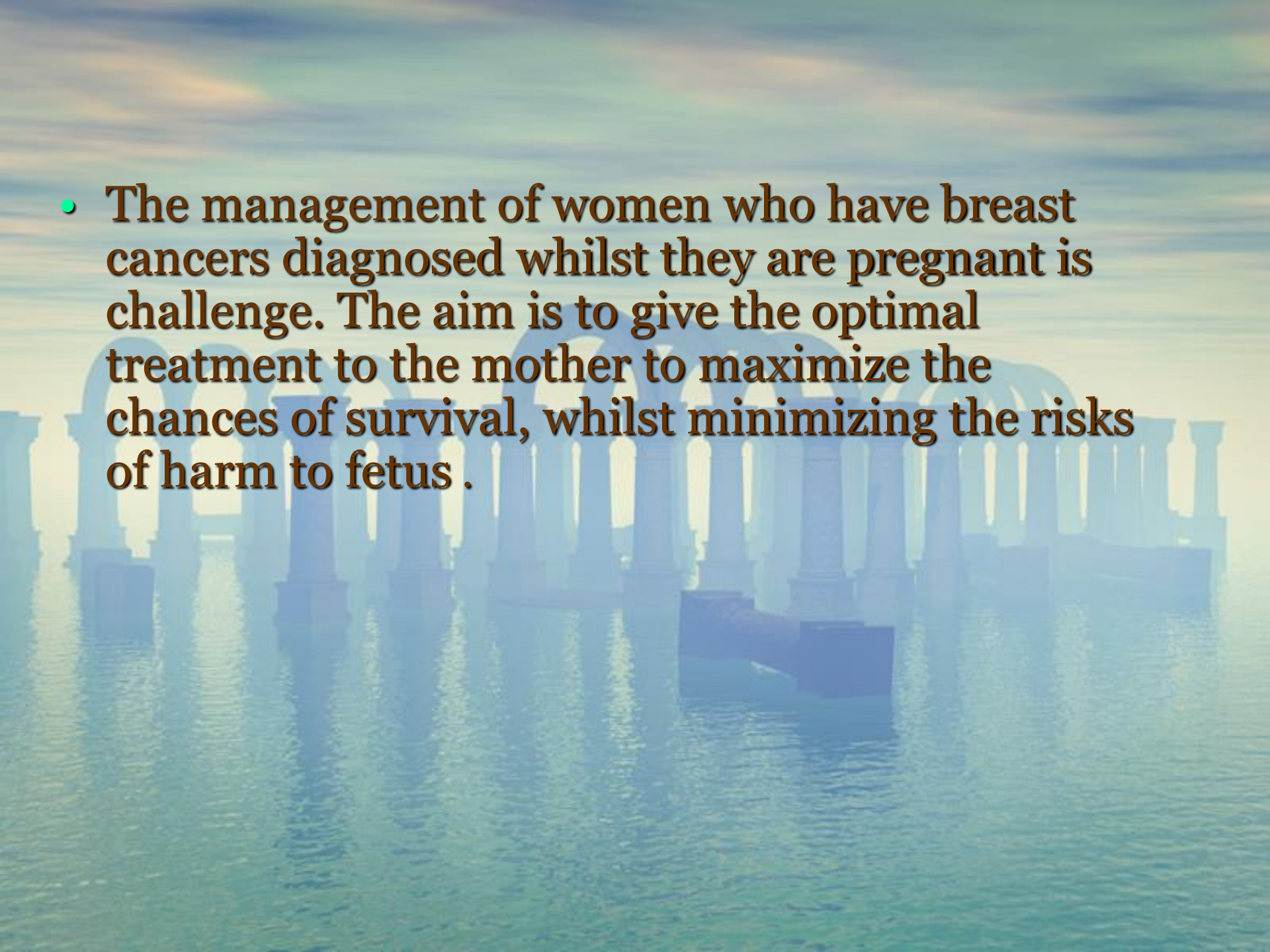
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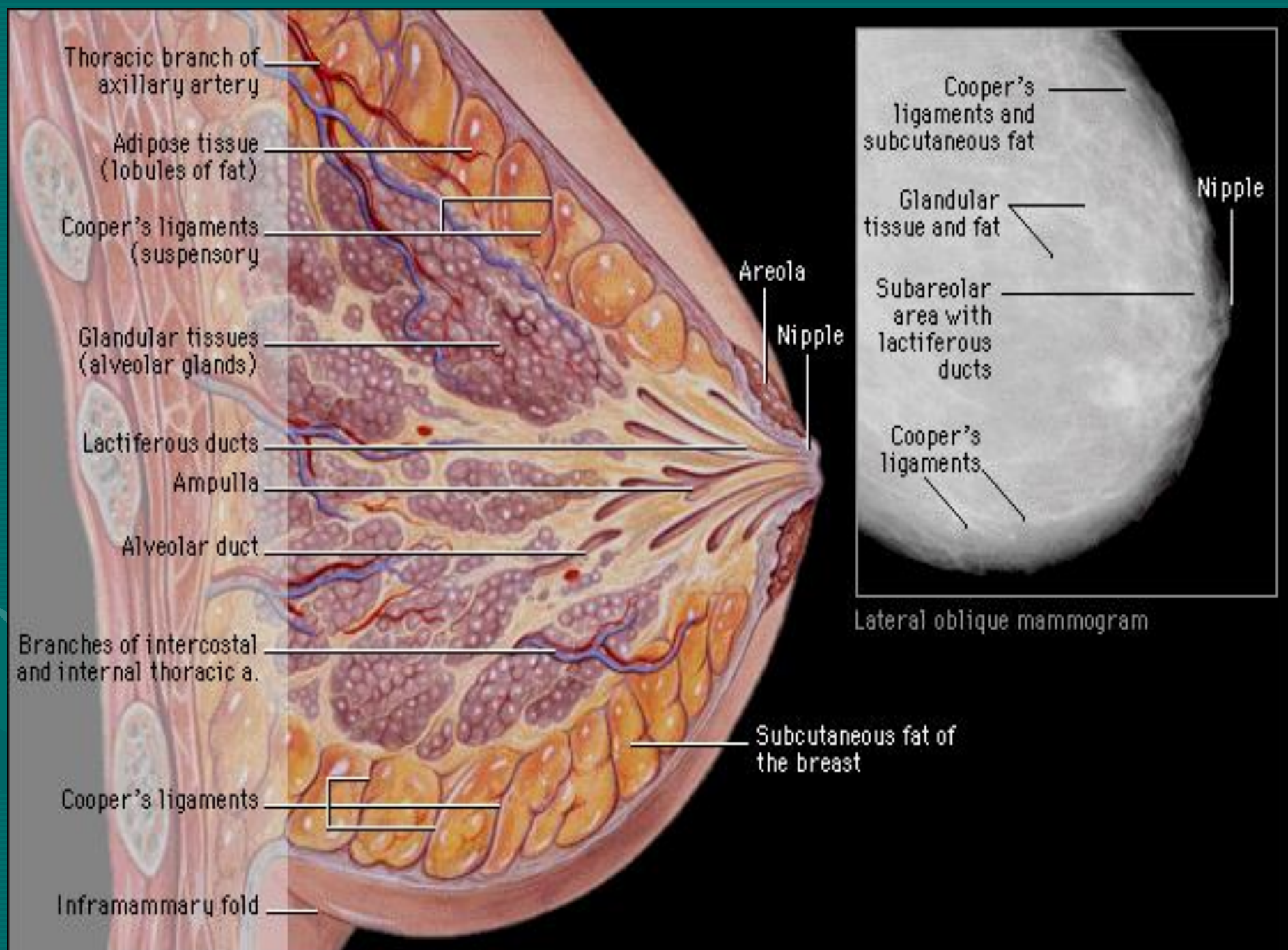
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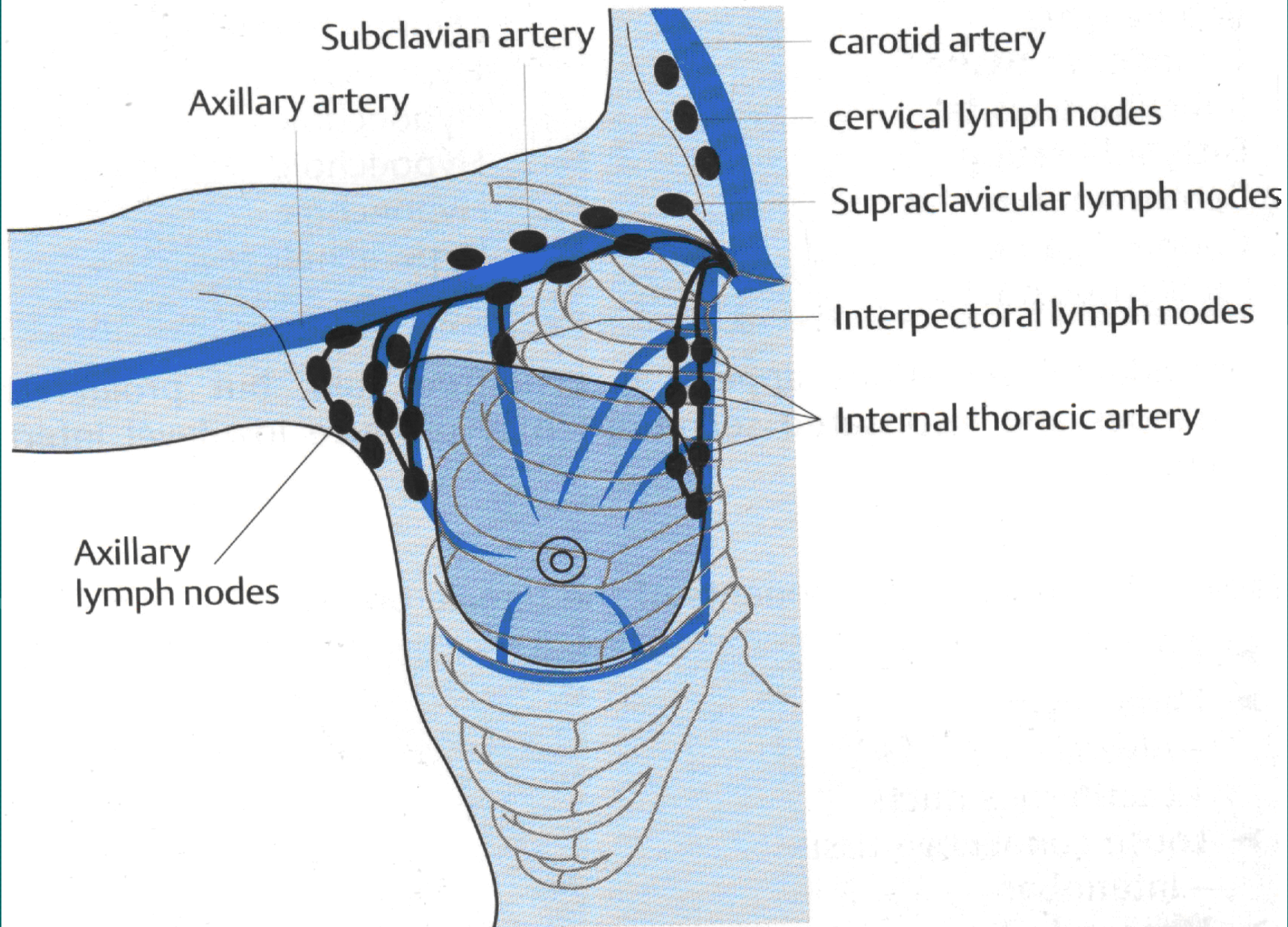
INTRODUCTION

- Pregnancy associated breast cancer is defined as **Breast Cancer Diagnosed During Pregnancy or Lactation or one year Postpartum.**
- Breast cancer is the most common cancer in pregnant and postpartum women, occurring in about 1 in 3,000 pregnant women..
- Pregnancy related increases in hormone levels may stimulate the growth of breast cancer and impair the outcome in patients whose disease is detected during pregnancy.

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- The background of the slide features a photograph of a classical building with numerous white columns, likely the Parthenon in Athens, reflected in the calm waters of a body of water. The sky is a soft, hazy blue with some light clouds. The text is overlaid on the upper left portion of the image.
- The management of women who have breast cancers diagnosed whilst they are pregnant is challenge. The aim is to give the optimal treatment to the mother to maximize the chances of survival, whilst minimizing the risks of harm to fetus .

ANATOMY OF THE BREAST





RISK FACTORS OF BREAST CANCER

Well-established risk factors

- Benign breast disease, especially cystic disease, proliferative types of hyperplasia, and atypical hyperplasia.
- Exposure to ionizing radiation.
- First childbirth after age of 20.
- History of breast cancer in a first-degree relative.
- Hormone therapy.
- Nulliparity.
- Obesity.

Probable risk factors

- Alcohol consumption.
- Did not breastfeed.
- Elevated endogenous estrogen levels.
- Hormonal contraception therapy.
- Increased mammographic density of breast tissue.
- Menarche before the age of 12 years.
- Menopause after the age of 45.
- Gene mutations.

PATHOLOGY OF BREAST CANCER

Malignant tumors can be classified as follows:

- 1- Epithelial malignancies (Breast Carcinoma)**
- 2- Stromal malignancies (Sarcomas)**
(Phyllodes tumor, Fibrosarcoma, Liposarcoma)
- 3- Other malignant tumors of the breast**
(e.g. skin tumors, lymphomas, metastases)



Classification of epithelial malignant tumors

Epithelial malignancies (breast carcinoma)

A. Non invasive carcinoma

- Ductal carcinoma in situ**
- Lobular carcinoma in situ**

B. Invasive carcinoma

- Ductal carcinoma of no special type**
- Lobular carcinoma - Tubular carcinoma**
- Mucinous carcinoma - Medullary carcinoma**
- Papillary carcinoma - Metaplastic carcinoma**

Distribution of histologic types of breast carcinoma

A. Non invasive carcinoma		15%-30%
- Ductal carcinoma in situ	80%	
- Lobular carcinoma in situ	20%	
B. Invasive carcinoma		70%-85%
-Ductal carcinoma of no special type	79%	
- Lobular carcinoma	10%	
- Tubular carcinoma	6%	
- Mucinous carcinoma	2%	
- Medullary carcinoma	2%	
- Papillary carcinoma	1%	
- Metaplastic carcinoma	<1%	

DIAGNOSIS OF BREAST CANCER WITH PREGNANCY

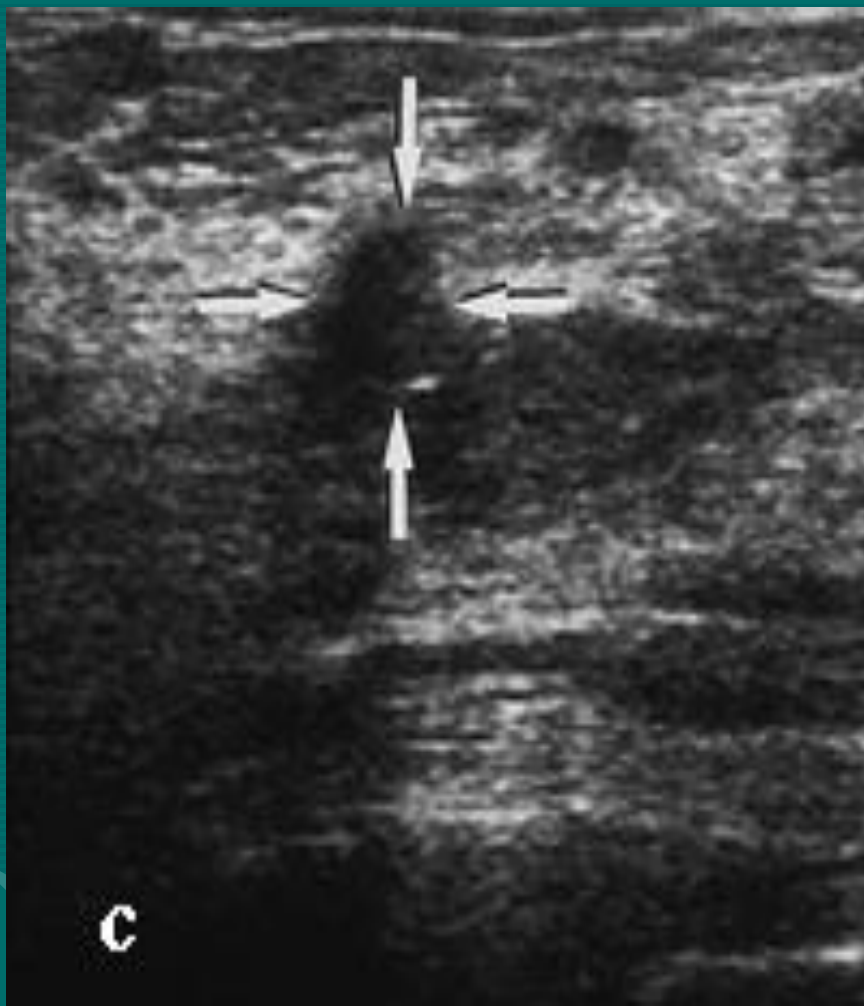
- Diagnosis of breast cancer in pregnancy is usually delayed 5-7 months due to physiological changes that take place with pregnancy.
- Carcinoma usually presents as a painless, firm, deep-seated mass. Ninety percent of these masses are detected by self-breast examination.
- Physical examination of the breasts should take note of symmetry and fluidity, fixation or retraction, thickening or dimpling, nipple bleeding, discharge, and inversion, as well as axillary or supraclavicular adenopathy. Any of these findings warrant further diagnostic evaluation and surgical consultation

I- Mammography

- A mammogram is an x-ray picture of the breasts. It is used to find tumors and cysts, and help to tell the difference between benign and malignant disease .
- Mammography is performed to screen healthy women for signs of breast cancer. It is also used to evaluate a woman who has symptoms of a breast disease, such as a lump, nipple discharge, breast pain, dimpling of the skin on the breast, or retraction of the nipple.
- Mammography can be performed with limited risk of exposure to the fetus.

II -Ultrasound

- Ultrasonography of the breast directed to an area of concern may be a useful diagnostic alternative to mammography in this setting. Real time ultrasound provides a non invasive evaluation of the breast during pregnancy without radiation exposure.
- Several studies have reported instances of breast cancer detected by ultrasound that were missed by mammography



(c) Transverse and (d) longitudinal bilateral whole-breast US scans show a lobulated solid mass (arrows in c, cursors in d). This proved to be an infiltrating ductal carcinoma with ductal carcinoma in situ

III- Magnetic Resonance Imaging (MRI)

- Because of the physiological changes of the pregnancy and lactation. MRI is of great help to delineate the soft tissue lesion in the breast .
- Breast MRI may be performed safely, but experience in this modality in pregnancy and lactation is being accrued and may be subject to similar problems of detecting a mass in dense breast tissue.

IV- Needle Aspiration

- Fine needle aspiration has been reported to be as effective in establishing a diagnosis in the pregnant patient as in the non pregnant patient. The accuracy of fine needle aspiration cytology in identifying malignancy depends on both the sampling technique and cytopathologist's experience

V- Biopsy

Breast biopsy may be performed under general or local anesthesia without risk to the fetus .

- Breast biopsy may be:-
 - a) Core Biopsy.
 - b) Excisional Biopsy.
 - c) Excisional biopsy with needle localization.

TREATMENT OVERVIEW

Early Stage Breast Cancer (Stage I and II)

- Surgery is recommended as the primary treatment of breast cancer in pregnant women. Since radiation in therapeutic doses may expose the fetus to potentially harmful scatter radiation, modified radical mastectomy is the treatment of choice.
- If adjuvant chemotherapy is necessary, it should not be given during the first trimester to avoid the risk of teratogenicity. If considered necessary, chemotherapy may be given after the first trimester.

- Studies using adjuvant hormonal therapy alone or in combination with chemotherapy for breast cancer in pregnant women are limited. There for, no conclusion has been reached regarding these options.
- Radiation therapy if indicated, should be withheld until after delivery since it may be harmful to the fetus at any stage of development

Late Stage Breast Cancer (Stage III and IV)

- Late stages are inoperable and treated by simple mastectomy (whatever the gestational age) as palliative measure for pain and fungation followed by palliative chemotherapy, hormone therapy or irradiation.
- First-trimester radiation therapy should be avoided. Chemotherapy may be given after the first trimester. Because the mother may have a limited life span, and there is a risk of fetal damage with treatment during the first trimester

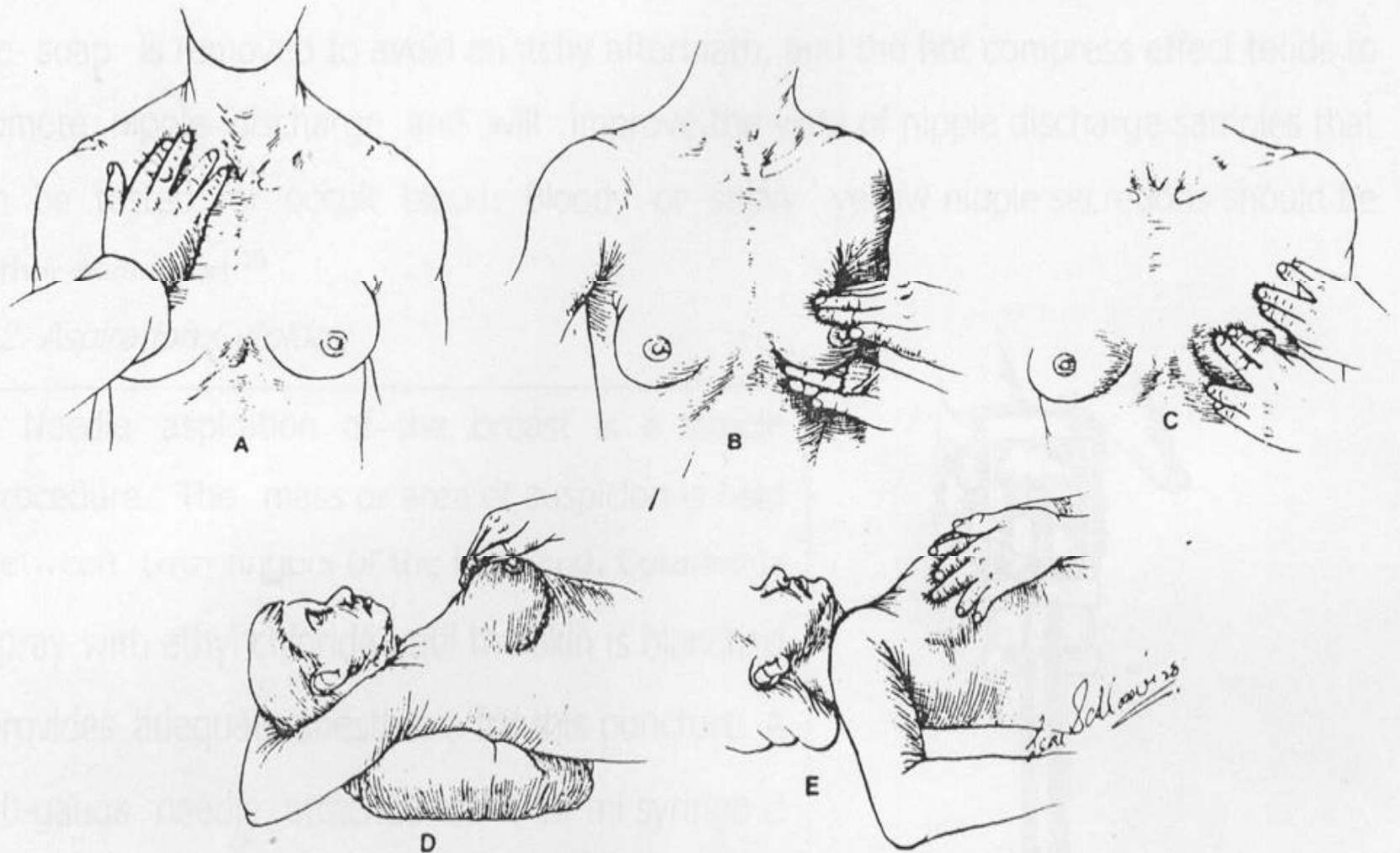
- In third trimester termination of pregnancy should be done once the fetal maturity allows with postpartum radiotherapy and chemotherapy with prevention of lactation in case of chemotherapy.

PREVENTION OF BREAST CANCER

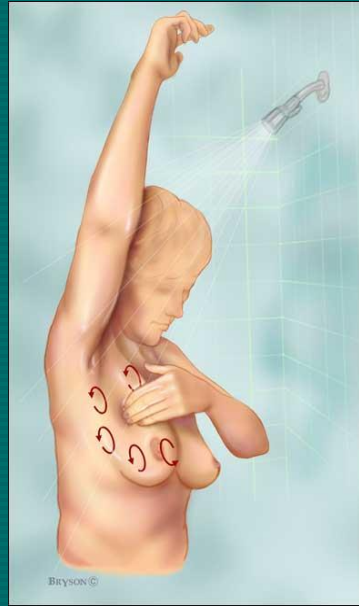
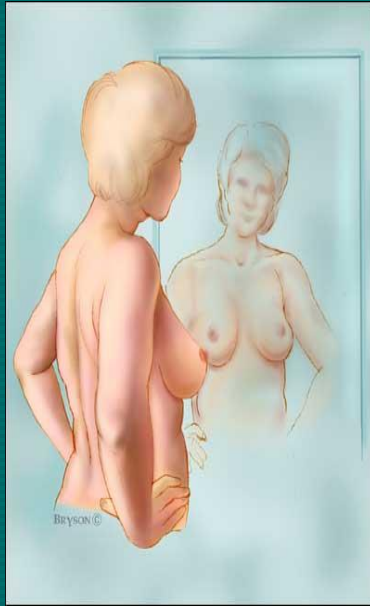
Current recommendation for breast cancer screening in women at high genetic risk include :-

- Screening mammograms once or twice a year, beginning at age 25-35 .
- Clinical breast examinations performed by a physician or nurse breast specialist, every 6-12 month starting at age 18.
- Monthly breast self examination beginning at age 18.

Breast Examinations performed by a Physician



BREAST SELF EXAMINATION



- First step is by inspection in front of a mirror to look for any abnormal signs.
- Second step is to palpate the breasts, axillae, and supraclavicular regions for the presence of a lump, this is done in a systemic manner, while showering by sliding the contralateral hand on the soaped breast.
- Third step is a repetition of the second while lying down in bed with the arm elevated.

LACTATION AFTER MANAGEMENT OF BREAST CANCER

- During treatment for breast cancer with chemotherapy or radiotherapy, women should not breastfeed .
- Potential carcinogens are retrieved in the human maternal milk, but there is no known impact or risk factor associated for the infant regarding the risk of any cancer .
- There is no evidence that milk from a mother previously treated for breast cancer increases the risk of disease for the child.
- When breast cancer is diagnosed in a nursing woman, breastfeeding should be interrupted and definitive treatment should be undertaken without delay

PREGNANCY AFTER BREAST CANCER

- All studies on the effect of subsequent pregnancy on recurrence of breast cancer and survival found a better outcome in women who became pregnant after treatment.



Birth Control After Breast Cancer Treatment

- Barrier methods of contraception such as condoms or the cap are more suitable .
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SUMMARY AND CONCLUSION

- Breast cancer is the most common cancer in pregnant and postpartum women.
- When the diagnosis is made during or soon after pregnancy, the prognosis is worse, with an increased risk of late-stage disease, particularly if the woman is aged 30 years or less .
- Breast cancer pathology is similar in age-matched pregnant and non-pregnant women. Breast cancer in pregnant women is often diagnosed at a later stage than in non pregnant women.
- Diagnosis of breast cancer in pregnancy is usually delayed 5-7 months. The normal physiologic changes in the breast during pregnancy may account for the delay in diagnosis, and make detection of a mass lesion more difficult.

- Ninety percent of these masses are detected by self-breast examination.
- Mammography is performed to screen healthy women for signs of breast cancer .
- As increased breast density during pregnancy can increase the rate of false negative diagnoses from mammography, ultrasound is the most useful imaging modality.
- MRI is of great help to delineate the soft tissue lesion in the breast, breast MRI may be performed safely during pregnancy and lactation.
- Fine needle aspiration and core biopsy can be performed safely during the first or second trimesters of pregnancy, or during lactation.

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- Surgery is recommended as the primary treatment of breast cancer in pregnant women. Since radiation in therapeutic doses may expose the fetus to potentially harmful scatter radiation, modified radical mastectomy is the treatment of choice.
- The application of radiation during pregnancy, either for diagnostic or therapeutic reasons, raises difficult scientific, moral, and ethical issue.
- Chemotherapy administered to pregnant women during the second or third trimesters for the treatment of breast cancer appears safe for both the fetus and mother .
- Termination of pregnancy has not been shown to have any beneficial effect on breast cancer outcome and is not usually considered as a therapeutic option.

RECOMMENDATIONS

- Breast cancer should be strongly suspected if the patient is presented with mass during pregnancy.
- All women should be encouraged to practice breast self examination in pregnancy and during lactation.
- Surgery is the cornerstone of surgical treatment of breast cancer during pregnancy and lactation.
- All women should be encouraged to breastfed their babies, which reduce the risk of breast cancer.



THANK YOU