

Breast cancer and pregnancy: current concepts in diagnosis and treatment

Essay

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By

Mohamed Ahmad Gowied

M.B., B.CH

Supervised By

Prof. Dr. Mohamed Helmy Shehab

*Professor of General Surgery
Faculty of medicine-Ain shams university*

Dr. Hany Rafik Halim

*Assistant Professor of General Surgery
Faculty of Medicine-Ain Shams University*

Dr. Mohamed Magdy abd El-Aziz

*Assistant Professor of General Surgery
Faculty of Medicine-Ain Shams University*

*Faculty of Medicine
Ain Shams University*

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ذلك فضل الله

يؤتيه من يشاء

والله ذو الفضل

العظيم

صرق الله العظيم

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الطرق الجديدة فى تشخيص وعلاج سرطان الثدى أثناء الحمل

رسالة

توطئة للحصول على درجة الماجستير فى الجراحة العامة

مقدمة من

الطبيب/ محمد أحمد محمد جويد

بكالوريوس الطب والجراحة العامة

تحت اشراف

أ.د/ محمد حلمى شهاب

أستاذ الجراحة العامة

كلية الطب

جامعة عين شمس

د/ هانى رفيق حليم

أستاذ مساعد الجراحة العامة

كلية الطب

جامعة عين شمس

د/ محمد مجدى عبد العزيز

أستاذ مساعد الجراحة العامة

كلية الطب

جامعة عين شمس

كلية الطب

جامعة عين شمس

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List of Abbreviations

ADH	Atypical Ductal Hyperplasia
ALND	Axillary Lymph Node Dissection
BCS	Breast Conserving Surgery
BI-RADS	The Breast Imaging Reporting And Data System
CBE	Screening By Clinical Breast Examination
CC	Crainocaudal
CNB	Core Needle Biopsy
CT	Computer Tomography
DCIS	Ductal Carcinoma In Situ
DITI	Digital Infrared Thermal Imaging
DL	Ductal Lavage
EIC	Extensive Intraductal Component
ER	Estrogen Receptor
FNAP	Ultrasound Guided Fine Needle Aspiration Cytology
GEP	Gene Expression Profiling
HER2	Human Epidermal Growth Factor Receptor 2.
IDC	Invasive Ductal Carcinoma
IHC	Immunohistochemical
ILC	Invasive Lobular Carcinoma
ITC	Isolated Tumor Cell
LCIS	Lobular Carcinoma In Situ
MLO	Mediolateral Oblique

List of Abbreviations

MRI	Magnetic Resonance Imaging
MRM	Modified Radical Mastectomy
NAF	Nipple Aspirate Fluid
PABC	Pregnancy Associated Breast Cancer
PR	Progesterone Receptor
RT-PCR	Reverse Transcriptase/Polymerase Chain Reaction
SLNB	Sentinel Lymph Node BIOPSY
US	Ultrasound

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INTRODUCTION

Breast cancer is found in about 1 in every 3,000 pregnant women. And breast cancer is the most common type of cancer found during pregnancy, while breastfeeding, or within the first year of delivery. It may be called gestational breast cancer or pregnancy-associated breast cancer (PABC) (*Abdel-Hady et al. 2012*).

Pregnancy causes many hormone changes in the body. as pregnancy cause stoppage of monthly menstrual cycles and shifts the hormone balance toward progesterone rather than estrogen. This is why women who become pregnant while they are young and have many pregnancies may have a slightly lower risk of breast cancer later on as they are exposed to less estrogen. Women who have had no children or who had their first pregnancy after age 30, on the other hand, have a slightly higher breast cancer (*Gambino et al., 2011*).

Diagnosis of breast cancer in a pregnant women is more difficult and more likely to occur in a later stage in comparison with non pregnant women. It's also more likely to have spread to the lymph nodes. This is partly because hormone changes during pregnancy make a woman's breasts larger and more tender. Another reason it may be hard to find breast cancers early during pregnancy is that pregnancy makes breast tissue denser. Dense breast tissue can hide an early cancer on a mammogram. Also, the early changes caused by cancer can be

easily mistaken for the normal changes that happen with pregnancy. Delayed diagnosis remains one of the biggest problems with breast cancer in pregnancy any suspicious breast lump should be seriously investigated. These methods include: Mammogram, Breast biopsy and Magnetic resonance imaging (MRI) scans (*Guidroz et al., 2011*).

Treatment of a pregnant woman with breast cancer has the same goal as treating a non-pregnant woman which is control the cancer in the place where it started and keep it from spreading. But the extra concern of protecting a growing baby may make reaching these goals more complex.

If breast cancer is found during pregnancy, the treatment recommendations depend on things such as the size of the tumor, site of tumor, spread of tumor and how far along the pregnancy is (*Litton and Theriault, 2010*).

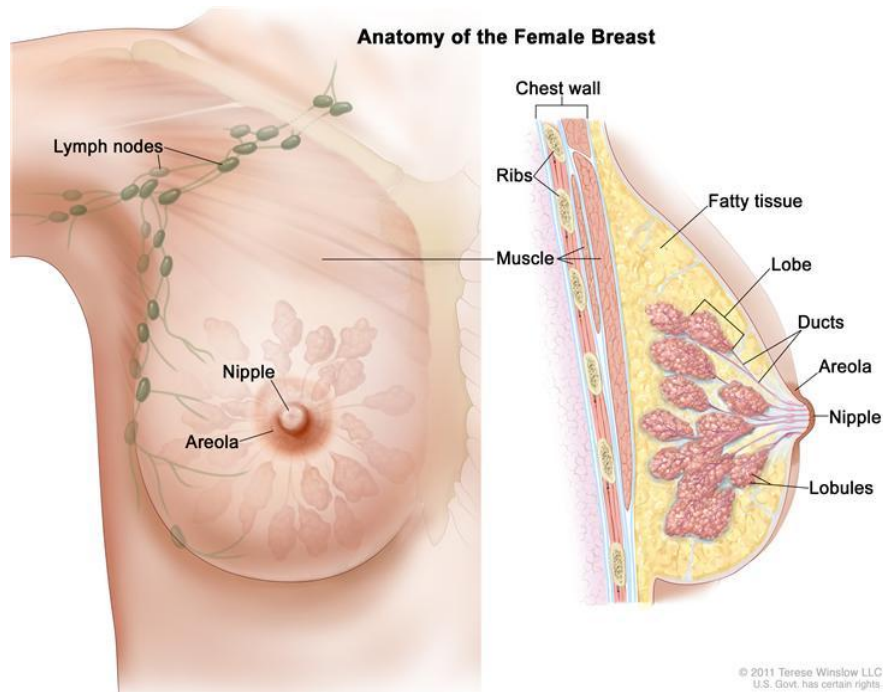
Pregnancy can make it harder to find, diagnose, and treat breast cancer. Most studies have found that the outcomes among pregnant and non-pregnant women with breast cancer are about the same for cancers found at the same stage, but not all studies agree. During the 5-year follow-up, researchers reported comparable survival in women at the same stage whose breast cancer was found when they weren't pregnant. Disease-free survival tends to be slightly shorter in the pregnant women (*Amant et al., 2013*).

AIM OF THE WORK

To review the recent lines of diagnosis and treatment of cancer breast during pregnancy stressing on methods of early detection and early management.

Chapter (1):

ANATOMY OF THE BREAST AND THE AXILLA



ANATOMY OF THE BREAST

- Introduction
- Arterial supply
- Lymphatic drainage
- Fascial support structure
- Skin
- Embryology
- Venous drainage
- Innervation
- Parenchyma and fat
- Muscles

INTRODUCTION:

The breast is a modified sweat gland whose development and function are regulated through a complex interplay of hormones. It is the only organ that is not fully developed at birth. No other organ undergoes such dramatic changes in size, shape and function as does the breast during growth, pregnancy, and menopause (*Carlson, 2009*).

The protuberant part of the human breast is generally described as overlying the second to the sixth ribs and extending from the lateral border of the sternum to the anterior axillary line (Fig. 1) (*Sainsbury, 2008*).

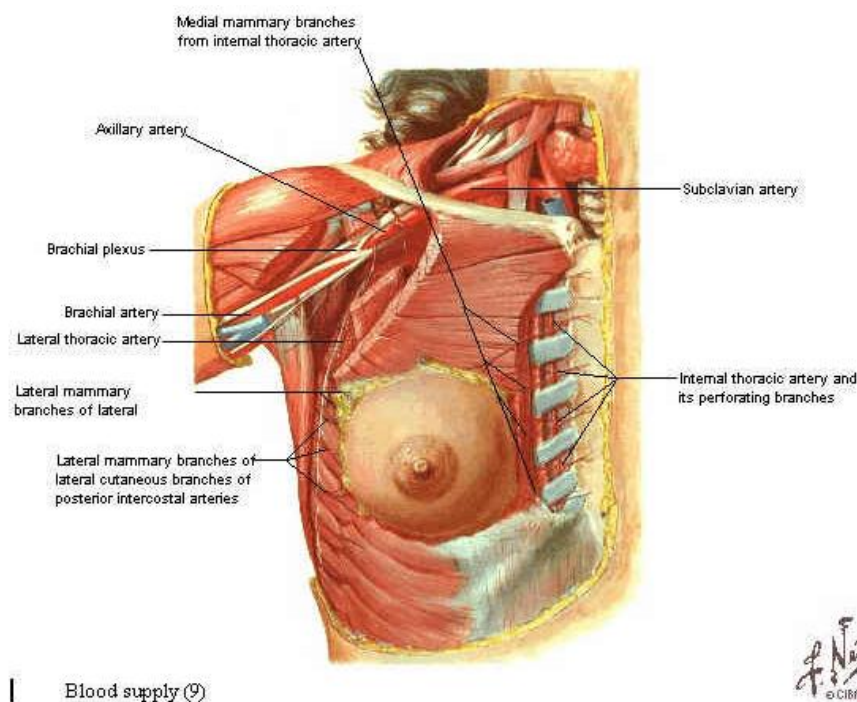


Fig. (1): The breast tissue typically extends from the 2nd rib to the inframammary fold at the 6th or 7th rib, and from the lateral border of the sternum to the anterior axillary line (*Carlson GW, 2009*).