Update in management of Fibrocystic disease of the Breast

Essay

Submitted for partial fulfillment of master degree in general surgery

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List of Abbreviations

BBD	:	Benign breast disease
BMI	:	Body mass index
EGF	:	Epidermal growth factor
EPO	:	The oil of evening primrose
FCC	:	Fibrocystic change
GLA	:	Gamolenic acid
NSAID drugs	:	Non-steroidal anti-inflammatory
PFA acid	:	Essential polysaturated fatty

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First of all, all gratitude is due to ***allah*** *for blessing this work, until it has reached its end, as a part of his generous help, throughout my life.*

Really I can hardly find the words to express my gratitude to ***Prof. Dr. Mohamad Alaa-Eldin Osman*** *Professor of general surgery, faculty of medicine, Ain Shams University, for his supervision, continuous help, encouragement throughout this work and great effort he has done in the meticulous revision of the whole work. It is a great honor to work under his guidance and supervision.*

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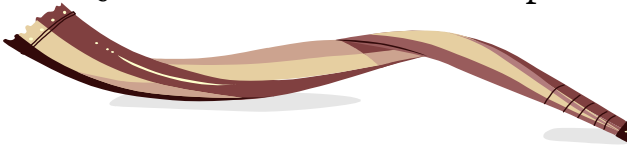
Last but not least, I dedicate this work to my family, whom without their sincere emotional support, pushing me forward this work would not have ever been completed.




قَالُوا سُبْحَانَكَ
لاَ عِلْمَ لَنَا
إِلاَّ مَا عَلَّمْتَنَا
إِنَّكَ أَنتَ
الْعَلِيمُ الْحَكِيمُ
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Introduction

Fibrocystic disease or fibrocystic change is a heterogeneous group of changes rather than a single entity, affecting stromal & glandular tissue of breast. Pathologically, these changes are characterized by formation of cysts, stromal fibrosis and a variety of proliferative changes. [1]

Formerly called fibrocystic disease, the term fibrocystic change is used to refer to hormonal induced breast changes that are more physiologic in nature than overt disease. [2] Fibrocystic disease or fibrocystic change is a pathologic term and should not be used to describe clinical findings. [3]

It is generally accepted that approximately 90%of women have fibrocystic changes and that these are pronounced in women in reproductive age. [3]

Although more common in women in their third decade of life & beyond, adolescent

girls may present with various degrees of breast tenderness & nodularity that change over the course of the menstrual cycle. [2]

The cause of the condition is not fully understood though it is known that they are tied to hormone levels. Fibrocystic change is a cumulative process that is caused partly by normal hormonal variation during a woman's monthly cycle. The most important of these hormones are estrogen, progesterone and prolactin. These hormones directly affect breast tissue by causing cells to grow and multiply. Many other hormones such as TSH, insulin, growth hormone and growth factors such as TGF beta exert direct and indirect effects amplifying or regulating cell growth. Multiple small cysts commonly develop when woman hit her thirties. Larger cysts usually do not occur until after age of 35. [4]

The following may be considered risk factors for benign breast disease; a heterogeneous group of pathologies with

majority related to benign fibrocystic changes, with differing degrees of association: oral contraceptives, age at first live birth, nulliparity, breast feeding, age at menopause, socioeconomic status, education, race and family history of breast cancer. For many women such changes are normal, without an identifiable cause. [5]

Breast cancer risk is elevated for small fraction of lesions. Non-proliferative lesions have no increased risk. Proliferative lesions have approximately 2 fold increase. Atypical lobular hyperplasia is associated with greatest risk approximately 5 fold and especially high relative risk of developing pre-menopausal breast cancer. Atypical ductal hyperplasia is associated with 2.4- fold risk. [6]

If a patient’s medical history and physical exam findings are constant with normal breast changes, no additional test are considered but otherwise the patient

will be asked to return a few weeks later for reassessment. [2]

Treatment for benign breast disease including fibrocystic changes is directed at symptom control and prevention of more serious problems that might arise from lesions if left untreated. In general, most fibrocystic changes in breast do not require any treatment and get better with time. [2]

Management depends on severity of condition and start with assurance of its benign nature, using of well fitting brassiere [2], life style modifications and medications including anti-inflammatory drugs & oral contraceptives. [2]

In women who are deemed at intermediate to high risk of developing breast cancer, chemoprevention risk-reduction strategies include tamoxifen (for either pre or post-menopausal women) [7] or raloxifene (for post-menopausal women only). [8]

Aim of the work

The aim of this study is to review recent updates in fibrocystic disease of the breast as regards diagnosis, management and possibility of developing breast cancer.

Embryology & Development of the Breast

During the second month of gestation, two bands of slightly thickened ectoderm appear on the ventral body wall extending from above the axilla to below the groin. These bands are the milk lines and represent potential mammary gland tissue. In humans, only the pectoral portion of these bands will persist and ultimately develop into adult mammary glands. [9]

The glandular portion of the breast develops from the ectoderm. It arises from the local thickening of the epidermis. From this thickening, 16 to 24 buds of ectodermal cells grow into the underlying mesoderm (dermis) during the twelfth week. These buds, at first solid, will become canalized near term to form the lactiferous ducts. The tips of the buds will give rise to the secretory acini during lactation. The epidermal surface of the future nipple is at first a shallow pit. Near term it becomes everted. [12]