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College of Medicine

Article Review

(Cytological finding in malignant breast lesions)

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بسم الله الرحمن الرحيم

(إنما يخشى الله من عباده العلماء إن الله عزيز غفور)

صدق الله العظيم

سورة فاطر أية (28)

الإهداء

إلى من علمني كيف أقف بكل ثبات فوق الأرض

أبي المحترم

إلى نبع المحبة والإيثار والكرم

أمي الموقرة

إلى اقرب الناس إلى نفسي

أخواني وأخواتي

إلى جميع الشهداء رحمهم الله

إلى جميع من تلقيت منهم النصح والدعم من الأقارب والأصدقاء

أهديكم خلاصة جهدي العلمي

الشكر والقدير

الحمد لله الذي هدانا وأعدنا وأمدنا وألهمنا الصبر على ألمشاق ووفقنا لما نحن عليه

وارفع كلمة الشكر إلى الدكتورة ذرى عباس

والى كل من مد يد العون لنا من قريب أو بعيد

وقبل أن امضي أقدم أسمى أيات الشكر والتقدير إلى الذين مهدوا لي طريق العلم والمعرفة

إلى أساتذتي لأفاضل

Content;

Abstract

Introduction; Breast cytology is a significant component of the Triple approach" for pre-operative diagnosis of breast lumps, the other two being clinical assessment and radiological imaging . (FNAC) is a simple, rapid, cost effective, minimally invasive, accurate procedure and plays a pivotal role in early diagnosis and categorization of a breast lump into benign or malignant.The role of FNAC in diagnosing breast lesions is crucial, however histopathology remains the gold standard. **{6}**

format for breast lesions laid down by The International academy

we came across various studies on spectrum of breast lesions, however only few authors have studied breast lesions as per IAC standardized categories . The present study was conducted to categorize the breast

The aim of this study is to finding of malignant lesion and its types in patient with breast lumps.

Conclusion ; FNAC is a simple, reliable, cost effective, first line diagnostic procedure for all breast lumps.

-The most common type of malignant tumor is invasive dactual carcinoma.

-There is correlation between the age of the patients and the breast cancer .where the breast cancer increase with age.

- FNAC Fine needle aspiration cytology is a procedure of choice for

preoperative diagnosis in breast lesions mainly in a resource-limited settings. Our study identifed the occurrence of malignant breast lesions in young

women, which is of a paramount public health concern.

Introduction

Each breast has 15 to 20 sections, called lobes. They are arranged like the petals of a daisy.

Each lobe has many smaller structures called lobules. These end in dozens of tiny bulbs that can produce milk.

The lobes, lobules, and bulbs are all linked by thin tubes called ducts.

These ducts lead to the nipple in the center of a dark area of skin called the areola

Fat fills the spaces between lobules and ducts.

There are no muscles in the breast, but muscles lie under each breast and cover the ribs.

Each breast also contains blood vessels and vessels that carry lymph. The lymph vessels lead to small bean-shaped organs called lymph nodes. These lymph nodes are found in clusters under the arm, above the collarbone, and in the chest. They are also in many other parts of the body**.{1,2,}**

The breast is the tissue overlying the chest (pectoral) muscles. Women's breasts are made of specialized tissue that produces milk (glandular tissue) as well as fatty tissue. The amount of fat determines the size of the breast. The milk-producing part of the breast is organized into 15 to 20 sections, called lobes.

For a variety of reasons, it's critical to understand breast architecture and how it appears on imaging tests.

For starters, no interventionist wants to mistake differences in normal anatomy for a pathologic disease and end up harming a patient with a procedure.

Second, pinpointing the location of an abnormality in the breast within the context of normal background anatomy might help to limit down the range of possible diagnosis. **{3}**

As far as radiology is concerned,

For a variety of reasons, it's critical to understand breast architecture and how it appears on imaging tests.

For starters, no interventionist wants to mistake differences in normal anatomy for a pathologic disease and end up harming a patient with a procedure.

Second, recognizing the location of a breast abnormality within the context of normal background anatomy might help to limit down the range of possible diagnosis.

The mammary gland is an epidermal appendage, derived from the apocrine glands. The human breast consists of the parenchyma and stroma, originating from ectodermal and mesodermal elements, respectively. Development of the human breast is distinctive for several reasons.

The anatomy of the breast reflects its unique function: the production of milk for lactation (breast feeding).

The tissue's epithelial component is made up of lobules that produce milk and link to ducts that lead to the nipple**.{2,3}**

Malignant breast lesion:

Breast cancer is the most frequent type of cancer in humans, with the greatest fatality rate among women .

The triple wedge, mammography, clinical, and laboratory assessment of tumors are used to diagnose and prognostic breast cancers.

Histological type, tumor size, lymph node status, nuclear grade, proliferative index, and hormonal state are all important aspects to consider when determining prognosis.

All of the above factors are required for histological reports of human breast cancers (HBCs), according to the National Institute of Health Consensus Conference on Adjuvant Therapy for Breast Cancers held in Bethesda, Maryland .**{7,8,}**

Causes of breast cancer Age.

If you're 55 or older, you're more likely to develop breast cancer.

Sex.

Breast cancer is far more common in women than in men.

Genetics and family history

Smoking is prohibited

Use of alcoholic beverages

Obesity is a condition in which a person is overweight or obese.

Radiation is a type of exposure that occurs when a person is exposed to

Hormone replacement therapy is a treatment that replaces hormones in the body.**{1,2,3}**

Invasive Breast cancer may have no signs or symptoms, especially during the early stages. As the cancer grows, you may notice one or more of the following:

A lump or thickening in or near the breast or in the underarm that continues after your monthly menstrual cycle mass or lump, which may feel as small as a peaA change in the size, shape, or contour of the breast blood-stained or clear fluid from the nipple change in the feel or appearance of the skin on the breast or nipple -- dimpled, puckered, scaly, or inflamed Redness of the skin on the breast or nipple change in shape or position of the nipple An area that is distinctly different from any other area on either breast marble-like hardened area under the skin.**{9}**

In the invasive ductal carcinoma. In the early stages, invasive ductal carcinoma may not cause any obvious symptoms. Some people may develop certain warning signs, including:

A new lump in the breast. Swelling of the breast. Breast pain

(mastalgia).Nipple pain .Dimpling .Skin irritation .Redness or scaliness .A lump near the armpit .Inverted nipple.Thickening of the breast skin or nipple.Discharge from the nipple that isn't breast milk .cytological feature of invasive ductal carcinoma According to the literature, the cytologic features of the "classic" form is well defined: It has small, monomorphous cells with mild atypia and often has intracytoplasmic vacuoles with targetoid appearance, usually isolated or arranged in single-cell files or in small, loose clusters**{10,11}.**

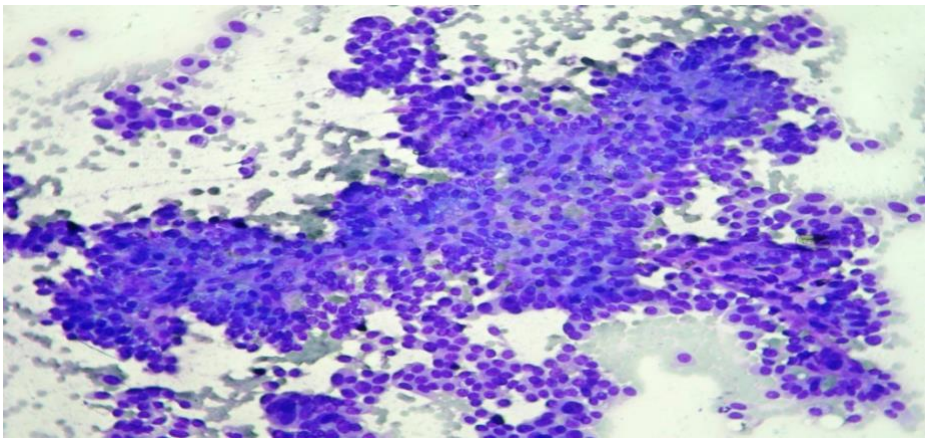
Like most breast cancers, invasive lobular carcinoma may not cause any symptoms in the early stages. However, some people may notice these warning signs:

An area of swelling or fullness in your breast .A change in the appearance or texture of your breast skin .Dimpling of your breast.Thickening of your breast skin.Inverted nipple. Breast pain.A lump near your armpit.Nipple discharge (that isn't breast milk).cytological feature of invasive lobular carcinoma: Smears of poorly differentiated ductal carcinomas may contain pleomorphic, bizarre cells and multinucleated tumour cells. FNA cytology is usually able to differentiate ductal from lobular breast carcinoma, although ductal carcinoma cells may occasionally be as small as cells from lobular carcinoma.**{15,16}**

Phyllodes tumors; are usually felt as a firm, painless breast lump, but some may hurt. They tend to grow large fairly quickly, and they often stretch the skin. Sometimes these tumors are seen first on an imaging test (like an ultrasound or mammogram), in which case they're often hard to tell apart from fibroadenomas. Three major cytological features were exclusively seen in all of, or the vast majority of, the phyllodes tumor cases; fibromyxoid stromal fragments with spindle nuclei (90%), fibroblastic pavements (93%), and appreciable number of spindles cells of fibroblastic nature among dispersed cell population (100%).**{15}**

Review

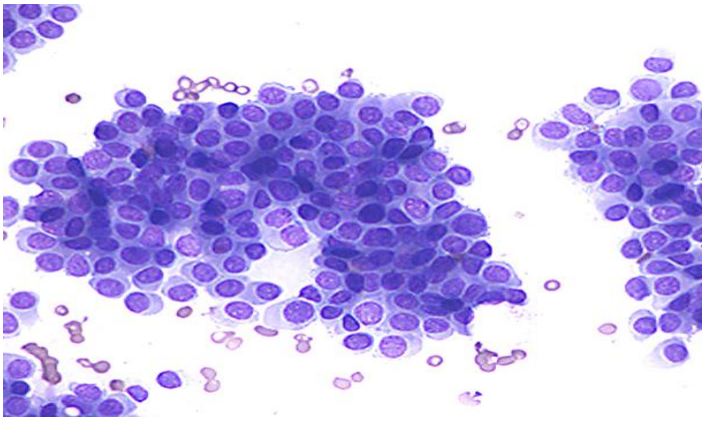
1-Invasive breast carcinoma; in the study of Kidane Siele Embaye1*, Saud Mohammed Raja2 , Medhanie Haile Gebreyesus3 and Matiwos Araya Ghebrehiwet4 the invasive breast carcinoma is 18 from 95 cases 1.99% .the majority of patient were in age group 45-55years. In the study of X Jing 1, E Wey, C W Michael out of total of 209 cases 168 is invasive breast carcinoma .another related study that was done by Jessica Aline Tomelin de Cursi1,2* , Mariângela Esther Alencar Marques1 Cristina Andrea Campos de Assis Cunha Castro3 there is 23 cases from 226 cases at age group 40-60years. Breast lump, was the most frequent presenting symptom. In the study of X jing ….the result is more high from the other study due to family history and the specimens is more than the others.**{22,24}**.



Invasive breast carcinoma

2- invasive dactal carcinoma . In the study of Touhid Uddin Rupom1 , Tamanna Choudhury 2 , Sultana Gulshana Banu 3. Out of 55 patients, 54 were diagnosed as ductal Carcinoma The age range of total 55 patients was 20-80 years with the mean age of 43.2 years. Highest frequency of malignant **{20}**

breast lump was found in the age group of 36-45 years. In the study of Kidane Siele Embaye1, Saud Mohammed Raja2 , Medhanie Haile Gebreyesus3 and Matiwos Araya Ghebrehiwet4 out of 905 of cases there is 79 of cases is ductal carcinoma 8.73% in age group of 40-50 years. In the study of Jessica Aline Tomelin de Cursi1,2 , Mariângela Esther Alencar Marques1 , Cristina Andrea Campos de Assis Cunha Castro3 Fernando Carlos Schmitt4 and Cleverson Teixeira Soares2,5.there is 68 patients 11 of cases is dactul carcinoma in 71.6% in age group of 45-50 years. Breast lump, and pain are the most frequent presenting symptom .in the study of Kidane Siele Embaye1….ec the results is more than the other this is due to ethical and geographical population. and the specimens is more than the others**.{18,19}**



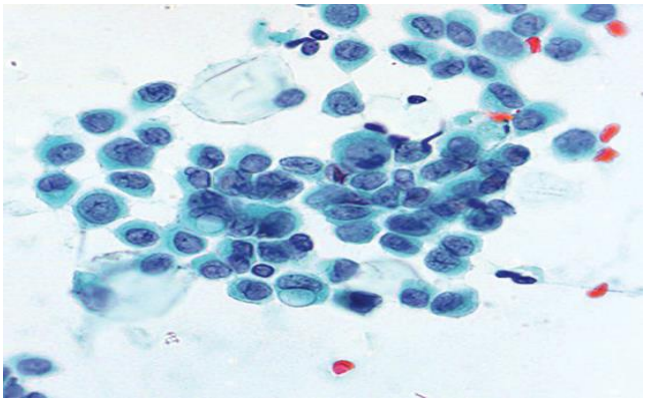
invasive dactul carcinoma

3-Invasive lobular carcinoma. In the study of Kidane Siele Embaye1*, Saud Mohammed Raja2 , Medhanie Haile Gebreyesus3

and Matiwos Araya Ghebrehiwet out of 905 patient there is 3 cases is invasive lobular carcinoma 0.33% in age group 40-50 years. In the study ofCarolla El Chamieh1*, Philippe Vielh2 and Sylvie Chevret1out of 771patient there is 5 cases is invasive lobular carcinoma 0.6% in the age group 45-55.years. in the study of Jessica Aline Tomelin de Cursi1,2* , Mariângela Esther Alencar Marques1 , Cristina Andrea Campos de Assis Cunha Castro

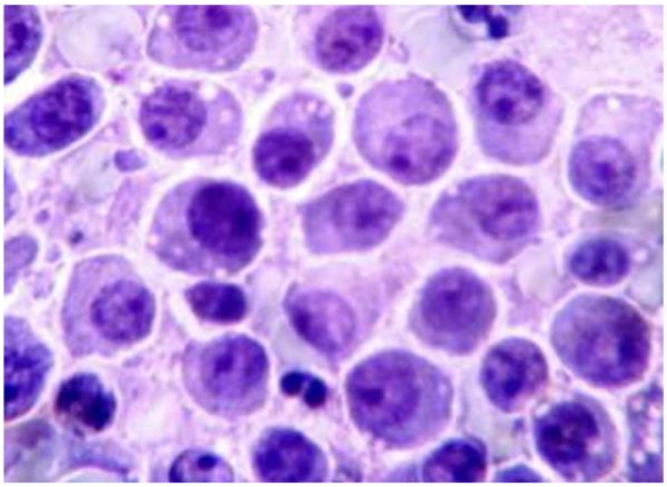
Fernando Carlos Schmitt4 and Cleverson Teixeira Soares2,5. Out of 226 patients there is 23 cases is invasive lobular carcinoma 0.7% in the age group 40-50 years. Breast lump, pain and area of swelling or fullness in breast

Are the most frequent presenting symptom. In the study of Jessica Aline Tomelin de…….ec the results is more than the others study due to variety of age from young patient to the elderly so the result is more. **{22}**



Invasive lobular carcinoma

4-Malignant Phyllode . In the study of Mulazim Hussain Bukhari,1 Madiha Arshad,1 Shahid Jamal,2 Shahida Niazi,1 Shahid Bashir,3 Irfan M. Bakhshi,1 and Shaharyar1 out of 31 patients there is 4 cases is malignant phyllod 30.6% in age group of 45- 65 years. In the study of Jessica Aline Tomelin de Cursi1,2* , Mariângela Esther Alencar Marques1 Cristina Andrea Campos de Assis Cunha Castr Fernando Carlos Schmitt4 and Cleverson Teixeira Soares2,5. Out of 250 patients there is 4 cases is malignant phyllod 2.4% in age group of 45-55 years .in the study of Kidane Siele Embaye1*, Saud Mohammed Raja2 , Medhanie Haile Gebreyesus3 and Matiwos Araya Ghebrehiwet4. Out of 905 patients there is 6 cases is malignant phyllod 0.66% in the age group of 40-70 years . painless breast lump was the most frequent presenting symptom. In the study of Kidane Siele Embaye… the results is more than the others I thank this is due to history of family and increasing of age and may be due to genetic**.{23}**



malignant phyllode

Conclusion:

1-FNAC is a simple, reliable, cost effective, first line diagnostic procedure for all breast lumps.

2-The most common type of malignant tumor is invasive dactual carcinoma.

3-There is correlation between the age of the patients and the breast cancer .where the breast cancer increase with age.

4- FNAC Fine needle aspiration cytology is a procedure of choice for preoperative diagnosis in breast lesions mainly in a resource-limited settings. Our study identifed the occurrence of malignant breast lesions in young women, which is of a paramount public health concern.

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