MAMMOGRAPHY: MASTITIS AND INFLAMMATORY BREAST CANCER

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Annotation: *Breast cancer is more common in women over the age of 45. Infiltrative breast cancer accounts for 1-5% of all breast cancers. This article reviews the diagnosis of infiltrative breast cancer, mammography and sonoscopy, and the differential diagnosis with mastitis.*

Key words: *sonography, x-rays, IBC, mastitis, mammography, antibioticotherapy, thickness of skin, immunohistochemistry.*

Аннотация: *Рак молочной железы чаще встречается у женщин старше 45 лет. Инфильтративный рак молочной железы встречается в 1–4% случаев среди всех опухолей данной локализации. В статье рассматриваются методы диагностики этого заболевания с*

использованием маммографии и сонографии, а также проводится дифференциальный анализ инфильтративного рака и мастита.

Ключевые слова: *рентгенография, сонография, ИРМ (инфильтративный рак молочной железы), мастит, маммография, антибиотикотерапия, утолщение кожи, иммуногистохимия*

Annotatsiya: *Ko‘krak bezi saratoni ko‘pincha 45 yoshdan oshgan ayollarda uchraydi. Infiltrativ ko‘krak bezi saratoni barcha ko‘krak saratoni holatlarining 1–5% ni tashkil qiladi. Ushbu maqolada infiltrativ ko‘krak bezi saratonining diagnostikasi, mammografiya va sonografiya usullari, shuningdek, mastit bilan qiyosiy diagnostikasi ko‘rib chiqiladi.*

Kalit so’zlar: *sonografiya, rentgen, infiltrativ ko‘krak saratoni, mastit, mammografiya, antibiotikoterapiya, terining qalinlashishi, immunogistologik tekshiruv.*

Abstract: *Currently, breast cancer is among the most prevalent malignancies worldwide. In 2022, 2,296,840 individuals were affected by this disease. Inflammatory breast cancer is a rare yet highly aggressive form, accounting for 2–5% of all cases. Our objective is to investigate the clinical, pathological, and mammographic characteristics of this condition and to differentiate it from mastitis at Tashkent Regional Oncology Dispensary. At the Tashkent Regional Oncology Dispensary, we examined 1,000 non-breastfeeding women from March 4, 2024 to November 11, 2024 and 12 of them had IBC. The median age of IBC was 40 years (range 31-65).*

Introduction

Inflammatory breast cancer (IBC) is a rare and fast-progressing type of epithelial breast tumor. It accounts for 1% to 3,2% of all breast cancer cases in the Uzbekistan. Signs of IBC may involve redness, swelling, diffuse pain on whole surface, enlargement of one breast and breast skin that resembles an orange peel. Unique symptoms for IBC are nipple inverted or retracted, diffusion pain across a breast, skin thickening is usually extensive and affect a larger portion. Diagnosis of IBC is like as mastitis, such as thickness skin, expanded lymph nodes and mammography's picture. Based on the date, IBC has not been studied in Uzbekistan. Our goal is to study the diagnostic methods of infiltrative breast cancer and differentiate it from mastitis. (1)

Distribution of patients by ages (table 1)

Age of patients pathological types	Abc (350 out of 1000)	Percentage n=35%
35-45	198	56,6%
45-55	97	27,7%
55-65	50	14,3%

65	5	1,4%
Age of patients of malignant tumor types	Abc (650 out of 1000)	Percentage n=65%
35-45	61	9,4%
45-55	356	54,7%
55-65	184	28,3%
65	49	7,6%
Total	1000	100,0

Methods and Materials

We screened 1000 patients registered from March 2024 to November 2024 and found 12 cases of IBC. Mammograms allow to look skin thickness, loss of fatty lymph nodes hilum. IBC poses significant clinical challenges due to its rapid progression, atypical presentation, and complex management requirements. Unlike most breast cancers, IBC rarely presents as a distinct lump (3). Instead, it manifests with diffuse swelling, redness, and warmth of the breast, resembling inflammatory

conditions such as mastitis or cellulitis. This resemblance often leads to delayed diagnosis or misdiagnosis, as it may initially be treated as an infection rather than a malignancy. Differential diagnosis between IBC and conditions like mastitis is a significant challenge. Both conditions can present with similar clinical symptoms, such as: breast swelling and redness, pain and warmth. Inflammatory breast cancer (IBC) is classified as a T4d tumor, yet in nearly one-third of cases, it is only detected once distant metastases have already developed. The risk of misdiagnosing IBC is considerably high due to multiple contributing factors (2). A key challenge is the variability in clinical and pathological manifestations; not all cases present with the same symptoms. For example, while some patients display both breast inflammation and dermal lymphatic invasion, others may exhibit only one of these features. Additionally, IBC cannot be diagnosed solely through histopathological examination. Instead, its identification depends on recognizing a distinct combination of clinical symptoms.Nipple retraction or invasion in IBC, in mastitis milk or clear fluid and sometimes pus, it is convenient way to avoid misdiagnosing. All non-metastatic IBC patients underwent neoadjuvant chemotherapy (NACT) as the initial treatment, followed by modified radical mastectomy (MRM), radiotherapy, and hormonal therapy when necessary (2).

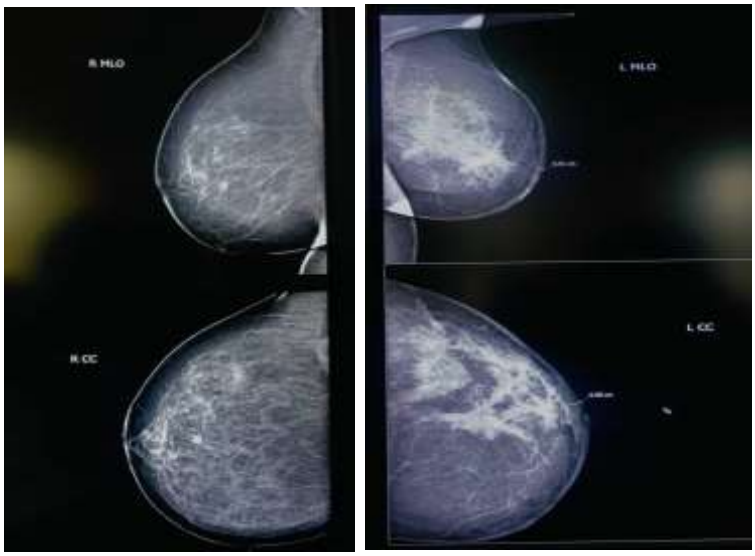
Result

Table 1 outlines the age features of the patients. 35-45 years patients more suffered by non-cancerous types of breast pathology. Women between the ages of 45 and 55 have a higher risk of developing breast cancer compared to other age groups.

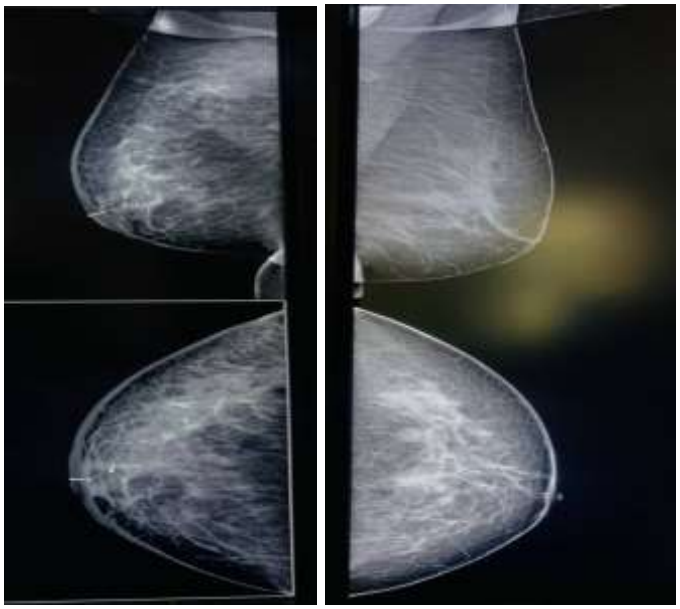
Breast cancer was primarily found in the left mammary gland, particularly in the upper outer quadrant. A total of 650 patients were diagnosed through sonography, mammography, and biopsy. Among them, 39 cases required

differential diagnosis to distinguish between infiltrative breast cancer (IBC) and mastitis. In our study, biopsy confirmed the presence of the infiltrative type of breast cancer in 12 cases out of these 39 patients. Mastitis was diagnosed in the remaining patients and the patients were sent for antibacterial therapy. Patients with infiltrative type of breast cancer were submitted to IGH testing and the following were obtained. The patients had a median age of 40 years, with an age range of 31 to 65 years, and a median symptom duration of 5 months. The positivity rates for estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER2/neu) were 50%, 46%, and 60%, respectively. Additionally, mucinous breast carcinoma was identified in cases of IBC in 1,4%.

We see the radiological signs of breast cancer. We differentiated signs of breast cancer and mastitis by skin thickening, infiltration and retraction or invasion of nipple and also contours and structure of lymph nodes in axillary side.



Pic.1 X-mammography of patient M. 45 years old. Diagnosis by histological: IBC in left breast



Pic.2 X-mammography of patient H. 53 years old. Diagnosis by histological: mastitis in right breast

Discussion

The diagnosis of IBC requires pathological confirmation of invasive carcinoma alongside specific clinical criteria. These include widespread redness, swelling involving more than two-thirds of the breast, increased warmth, tenderness, and rapid breast enlargement. However, in some cases, a mistake is made in the comparative diagnosis with mastitis, since both have the same clinical course and appearance. Diagnosis on biopsy is somewhat difficult due to the presence of inflammation in the tissue.

References:

[1] Barkataki S, Javadekar MJ, Bradfield P, Murphy T, Witmer DD, Van Golen KL: Inflammatory Breast Cancer: A Panoramic Overview. J Rare Dis Res Treat. (2018) 3(2): 37-43

[2] Ajay Gogia, Vinod Raina, Suryanarayan Vishnu Deo, Nootan Kumar Shukla, Bidhu kalyan Mohanti, Daya Nand Sharma: Inflammatory Breast Cancer: a Single Centre Analysis: Asian Pac J Cancer Prev, 15 (7), 3207-3210

[3] Massimo Cristofanilli, Naoto T.Ueno: Inflammatory Breast Cancer: An Update: 2012