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The Most Prevalent Cancer of the Women Breast in the City of Taiz

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Abstract: Breast cancer is the most common malignant tumor in Yemeni women, especially in the city of Taiz. The breast undergoes many changes throughout a woman's life, both progressive due to puberty, pregnancy, menstruation and menopause. This work aimed to review the invasive and intraductal carcinoma of the breast to evaluate its pathological intensity in the city of Taiz during 2008 and 2009. Correlation of ductal carcinoma with the type of the breast lesion and tumor grade was also done. In 2008 we study about 108 pieces of the women breast, which receiving to pathological laboratory of Althawra General Hospital (AGH) and 148 pieces of breast receiving to laboratory in 2009 were also studied. In allover of the study period we observed that, invasive ductal carcinoma (IDC) show more cases than those of intraductal carcinoma in Situ (DCIS) and other lesion of the breast. From these results, we make conclude that IDC of the women breast is the most common cancer of breast in the city of Taiz than others. It accounts for 17.7% and 37% of breast cancer incidence upon diagnosis, while the DCIS represented about 13.1% and 26%, according to our study during two years respectively. The diagnosis of breast cancer is usually readily made on morphological grounds by use of traditional including architecture, nuclear features and the presence or absence of cancer cells infiltrate in the surrounded tissue (tubular formation).

Key words: Invasive ductal carcinoma IDC · Intraductal carcinoma in Situ DCIS

INTRADUCTION

Breast cancer, like other cancers, occurs because of an interaction between the environment and a defective gene. Breast cancer is cancer originating from breast tissue, most commonly from the inner lining cells of milk ducts or the lobular acinary cells that supply the ducts with milk. Cancers originating from ducts are known as ductal carcinomas. Prognosis and survival rate varies greatly depending on cancer type and staging [1]. Worldwide, breast cancer comprises 10.4% of all cancer incidences among women, making it the most common type of non-skin cancer in women and the fifth most common cause of cancer death [2]. In 2004, breast cancer caused 519,000 deaths worldwide (7% of cancer deaths; almost 1% of all deaths) [3]. Breast cancer is about 100 times more common in women than in men, although males tend to have poorer outcomes due to delays in diagnosis [3-6]. In all parts of Taiz the men breast cancer is uncommon.

Ductal Carcinoma In Situ known as intraductal carcinoma is the most common type of non-invasive breast cancer in women's. It accounts for 13% of all breast cancer incidences upon diagnosis, according to statistics from the United States in 2004 [5, 6]. "Ductal carcinoma" refers to the development of cancer cells within the milk ducts of the breast and the cancer cells has not moved out of the duct and into any surrounding tissue. As screening mammography has become more widespread, DCIS has become one of the most commonly diagnosed breast conditions, now accounting for 20% of screening detected breast cancer.[6] In our country the screening mammography is uncommon, DCIS is sometimes diagnosed at a later stage, or that invasive breast cancer will develop. This is indicated and shoring our experimental study by increasing invasive breast cancer in the Taiz. Description of a breast cancer would optimally include multiple classification aspects. Breast cancer is usually, but not always, primarily classified by its histological appearance. Most breast cancers are derived

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from the epithelium lining the ducts or lobules and are classified as mammary ductal carcinoma or mammary lobular carcinoma. Carcinoma in situ is growth of low grade cancerous or precancerous cells within an isolated pocket without invasion of the surrounding tissue. In contrast, invasive ductal carcinoma invades the surrounding tissue of the mammary gland especially axillary lymph node [7, 8].

MATERIALS AND METHODS

We study about 256 pieces of the breast were received to pathological lab of AGH during two years (2008 and 2009). All study materials were fixed in 10% neutral solution formalin and we use traditional histological techniques to forms paraffin blocks. All material were sectioned in 4 microns by microtome, staining by H and E, studied by light microscop and the microphotographs were taken by digital camera canon

RESULTS AND DISCUSSION

The incidence of breast cancer varies greatly around the world: it is lowest in less-developed countries and greatest in the more-developed countries. In the city of Taiz breast cancer is increased by increasing women age and increasing at one year to another. Our study shows that, the breast cancer in the city is more demonstrated in the 2009 than in the 2008. The number of the breast specimens, which received to the pathological lab of Althawra General Hospital represented 108 in 2008 and after its analysis were classified into; 42 pieces had IDC, 31 pieces showed DCIS and the other remaining 35 pieces illustrated other lesions of the breast. In the 2009 the number of breast pieces was increased in third times than in the 2008. Breast specimens of the 2009 were classified as the following: 64 breast materials showed IDC, 46 pieces demonstrated DCIS and the remained 38 pieces illustrated other lesions of the breast. According to that the prevalent cancer of the breast is the IDC, which increased its prevalence percent at 17.7% in the 2008 to 37% in the 2009, but the increasing percentage of the DCIS at 13.1% in 2008 to 26.6% in the 2009. On a routine Haematoxilin and Eosin (H and E) stained slides, the minimum requirement for the diagnosis of DCIS is complete involvement of one or more ductal cross sections by identical population of cells, the aggregate cross diameter of which exceeds 2 mm. It is significance noting that the size criterion only applies for non necrotic, low grade variants of DCIS. Intraductal carcinoma in Situ

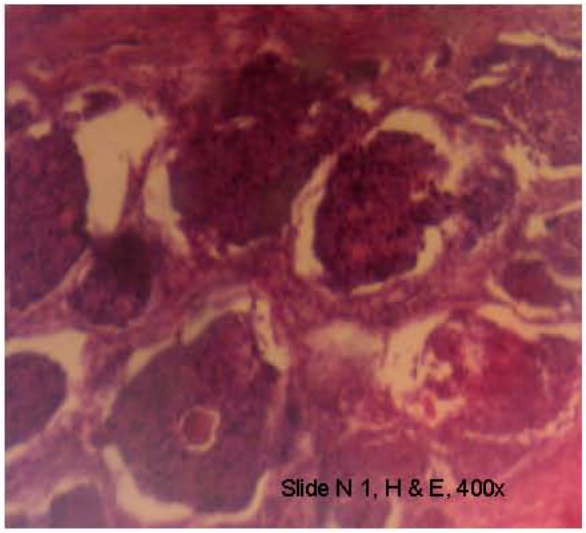
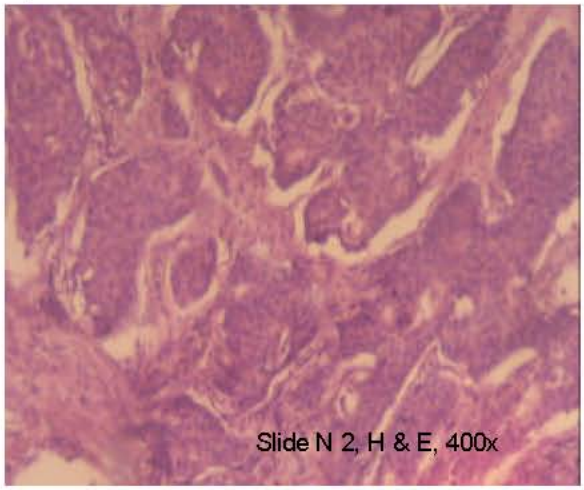


Fig. 1:



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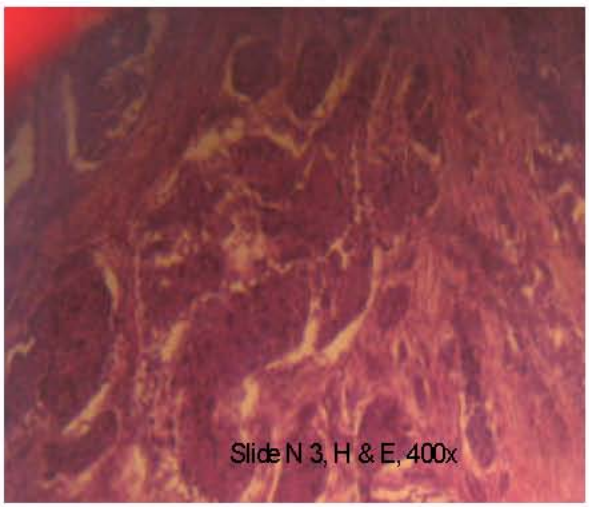

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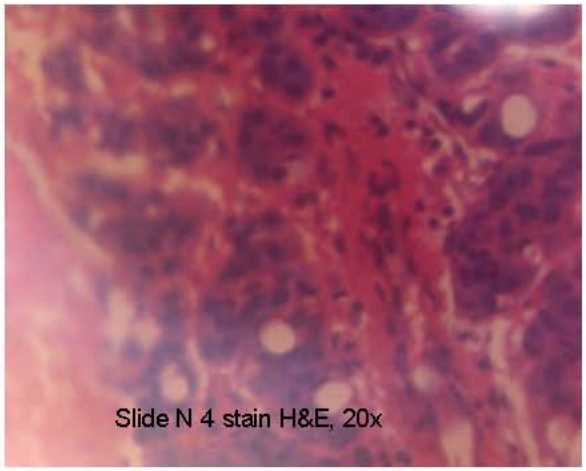

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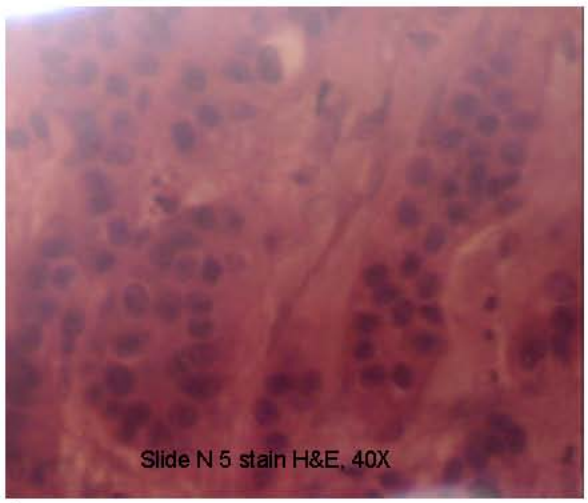

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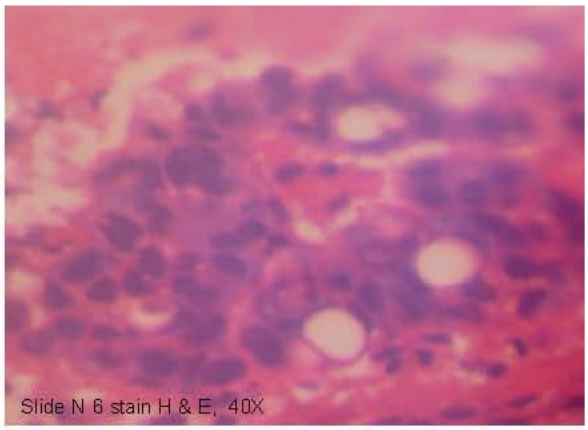

Fig. 6:

is considered as a heterogeneous group of lesion that differs in their histological and cytological features. The traditional method for classifying DCIS is based on the growth pattern, histological features of the tumor.

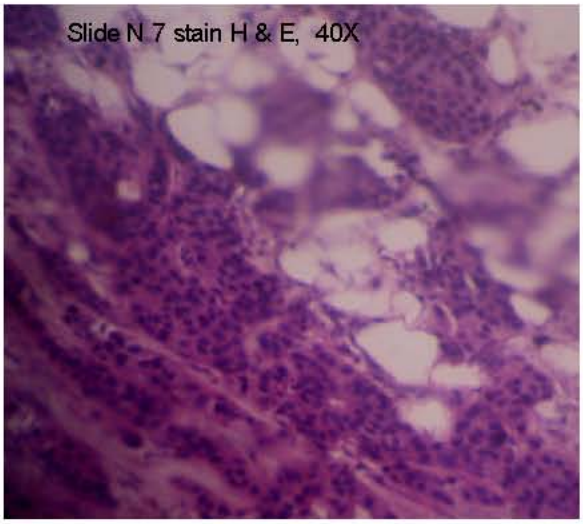

Fig. 7:

Comedo form characterized by central necrosis of the involved ducts and large tumor cells with nuclear polymorphisms (Fig. 1). The solid pattern shows the tumor cells obliterated lumens of the ducts and lack necrosis or fenestrations (Fig. 2). Cribriform subtype distinguishes by the formation more crowded glands without connective tissue stroma. The cells of this tumor are small to medium size with different hyperchromatic nuclei (Fig. 3).

Invasive ductal carcinoma is the first common cancer of the women breast and characterized by infiltrating tumor cells in the surrounding stroma or in the intra-mammary lymph node. This is local infiltration of the cancer cells in the same breast comportments and is typically composed of uniform small cells that diffusely infiltrate in linear fashion (Fig.4). On microscopic examination, the cancerous cells invade and replace the surrounding normal tissues. When cells become differentiated, they take different shapes and forms to function as part of an organ. Cancerous cells lose that differentiation. In cancer grading, tumor cells are generally classified as well differentiated (low grade degree of nuclear polymorphisms Fig. 5), moderately differentiated in which cancer cells are characterized by infiltrating nests of malignant cells to forms only, focal tubule or glandular formation (intermediate grade Fig. 6) and poorly differentiated (high grade Fig. 7). Poorly differentiated cancers have a worse prognosis. The stage describes the extent of the cancer in the body. It is based on whether the cancer is invasive or non-invasive, the size of the tumor, how many lymph nodes are involved and if it has spread to other parts of the body. The stage of a cancer

is one of the most important factors in determining prognosis and treatment options. The most common system used to describe the stages of breast cancer is the American Joint Committee on Cancer (AJCC) TNM system. The stage of a breast cancer can be based either on the results of the clinical stage, or on the results of the pathological stage. Pathological staging is likely to be more accurate than clinical staging, as it allows the doctor to get a firsthand notion of the extent of the cancer. The letter T followed by a number from 0 to 4 describes the tumor's size and spread to the skin or to the chest wall under the breast.. The letter N followed by a number from 0 to 3 indicates whether the cancer has spread to lymph nodes near the breast. The letter M followed by a 0 or 1 indicates whether the cancer has spread to distant organs.

CONCLUSION

The first most common cancer of women breast was IDC and the second common cancer was DCIS. The most common pathological features of IDC were infiltration cancer cells in the glandular stroma of the same breast, while the pathological feature of IDC with distant metastasis was infiltration of the axillaries lymph nodes by cancer cells. The common pathological feature of DCIS was ductal localization of the cancer cells without infiltration in the surrounding tissue. These findings were similar to other studies. The rate of IDC diagnosis was more than the rate of DCIS because no screening methods of the breast are obtained in our country and most of our study materials were postoperative (mastectomy). The pathological repot was helpful to confirm the suspicious diagnosis on mammograms and detect method of treatment.

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