CASE REPORT

AGGRESSIVE BREAST CARCINOMA IN A 26 YEARS-OLD LADY: A YOUNG AGE AT DIAGNOSIS

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Manuscript Info	*Abstract*
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	The incidence of breast cancer is directly related to the age as it increases with it. The diagnosis of breast cancer at an age below 40 is relatively uncommon with the majority being diagnosed at the age of 50 or older. Breast cancer accounts for less than 1.8% in females younger than 30 years of age.In this paper, we report a case of a 26-year-old lady who presented with a picture of cholestatic hepatic disease and then later found to have invasive ductal carcinoma with hepatic metastasis confirmed by histopathology.

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Introduction:-

Worldwide, breast cancer is the most common cancer in females, accounting for 22% of all newly diagnosed cancers in this group of patients.[1-4]According to cancer incidence report of Saudi Arabia 2009, breast cancer ranked first among females accounting for 25.1% of all newly diagnosed female cancers.[1] The median age at diagnosis of breast cancer was reported to be 48 years compared to a median age in USA of 62 years at diagnosis.[2,3]

Breast cancer is uncommon in women younger than 30years of age; the percentage of the new cases below the age of 30 is less than 0.65%.[4,5]
Breast carcinoma isnot only uncommon in young female, but at a younger age it often tends to be more aggressive with poor survival as the survival rate in 20 years is less than 30% compared to older patients with the same tumor and stage.[5]

Case Report:-

A26 -year-old Saudi single female, presented to uscomplainingofan abdominal pain associated with nausea, anorexia, abdominal distension and weight loss of one-month duration. The patient has no previous medical or family history contributing to the present illness.

Physical examination revealed jaundiced sclera, distended abdomen consistent with ascites and hepatomegaly. The liver span was 16 cm. The other parts of physical examination were normal.

Liver function test, PTT, PT, and tumor markers are shown in [Table1].

Tri-phasic CT scan revealed infiltrative hepatic lesion as shown in [Figure.1].

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Transcutaneous biopsy was taken from the right hepatic lobe and the findings were consistent with diffuse and glandular invasive carcinoma as shown in [Figure.2].

Immuno-histochemical staining showed tumor cells that are strongly positive for estrogen receptors and CK19. However, progesterone receptors and HER2 are negative [Figure 3 and 4].

Based on these findings, breast carcinoma was suspected, and indeed, breast examination showed left breast mass, measuring 3x3 cm that was fixed to the skin with no nipple discharge, along with cervical lymphadenopathy.

Our patients passed away within less than 4 weeks of her presentation due to disseminated intravascular coagulopathy secondary to hepatic metastasis from breast carcinoma and hepatic failure.

Because of the quick deterioration of the health state of the patient and death, it was not possible to perform a mammography or initiate any kind of interventional or palliative therapy.

Table 1:- Rapid liver function deterioration within 4 weeks till patient death

Investigation	On day of admission 15/1/2016	On day of death 9/2/2016
PTT (25-35s)	42s	56s
PT (11-14s)	17s	24s
LFT	T.Bili= 5 (0.3-1.9 mg/dl) D.Bili= 4.6 (0-0.3 mg/dl) T.Protein= 8 (6-8.3 gm/dl) Albumin= 2 (3.3-5.5 gm/dl) ALP=828 (45-115 U/L) SGOT=645 (8-48 U/L) SGPT=115 (7-55 U/L) LDH=768 (140-280 U/L) GGTP=1184 (3-28.7 IU/L)	T.bili= 10 D.Bili= 8 T.Protein= 6 Albumin= 3 ALP= 173 SGOT=697 SGPT=91 LDH = 790 GGTP=301

Discussion:-

Invasive breast carcinoma is uncommon in women younger than 40 years old. It accounts for less than 1.8% in females with breast cancer younger than 30 years of age. [4]As far as we know, the youngest reported age of woman with breast cancer in the literature was 21.[6]

In Saudi Arabia, the median age at diagnosis of breast cancer is 48, a decade younger than the reported median age in the developed countries, where the median age at diagnosis is 61 and 58 years old for white and black women, respectively.[2,3] In general, it's been noticed in the literature that a higher proportion of patients were diagnosed with breast cancer at an age less than 40 in Africa and the Middle East; and the researches to reveal whether environmental factors or genetic differences contribute to this early occurrence, are ongoing.[7]

Several, however, uncommon factors contribute to the prognosis and the aggressive nature that might lead to an unfortunate ending in breast cancer patients, including young age at diagnosis as previously discussed, hormone receptor status, elevated tumor marker levels, hepatic metastasis as well as family history of familial syndromes of breast cancer; and our patient had many of these factors.

Breast cancer in young patients tends to be more invasive and aggressive clinically, biologically, and in term of its histological aspects leading to poor prognosis. [5,8] Younger patients often tend to have lower ER positivity and higher HER2 positivity; our patient showed the contrary. [7]

Young patients presenting with breast cancer may have abnormal single genes mutation transmitted as autosomal dominant such as BRCA1 and BRCA2, or genes as TP53 and CHEK2whichare transmitted as autosomal recessive genes that may play a fundamental role in developing breast cancer in patients younger than 40 years

ofage.[3,7,9]However, our patient did not mention positive family history of breast cancer, ovarian cancer, prostate cancer or colon cancer that support familial risk of her breast cancer.

Investigations of our patient showed an isolated extensive liver metastasis with infiltrative pattern.

Some studies showed that isolated hepatic breast cancer metastasis ranges from 2% to 26% with a median survival of only a few months. [10]The liver function test of our patient showed bilirubin of 5 mg/dl and albumin level of 2 gm/dl indicating liver failure.Studies have shown that patients with breast cancer andmarked impaired hepatic function secondary to breast carcinoma had poor prognosis and some patients died at the first cycle of chemotherapy. Just like our patient, the range of survival of such patients varies from only two weeks up till 6 weeks.[10]Features indicating very poor prognosis of patients with hepatic metastasis of breast cancer include extensive invasion of the liver, low albumin, less than 2gm/dl and high bilirubin, more than 5 mg/dl.[10]All in all, our patient had deleterious progressive hepatic metastasis and she passed away within less than 4 weeks from her admission. It was not possible to provide any active therapy such as palliative chemotherapy since the patient performance status at admission was 3 (based on ECOG) and presented with marked impaired liver function secondary to hepatic failure from the metastasis.

Conclusion:-

Breast cancer in young females < 40 years of age is relatively uncommon hence, young age at diagnosis is considered as a poor prognostic factor. It often follows an aggressive and invasive course with poor outcomes as what happened with our patient whose symptoms were sudden and progressive with liver failure that lead to her death in less than 4 weeks.

Figure1:-Liver metastases; Characteristic appearance of liver metastases on a contrast-enhanced axial CT scan.
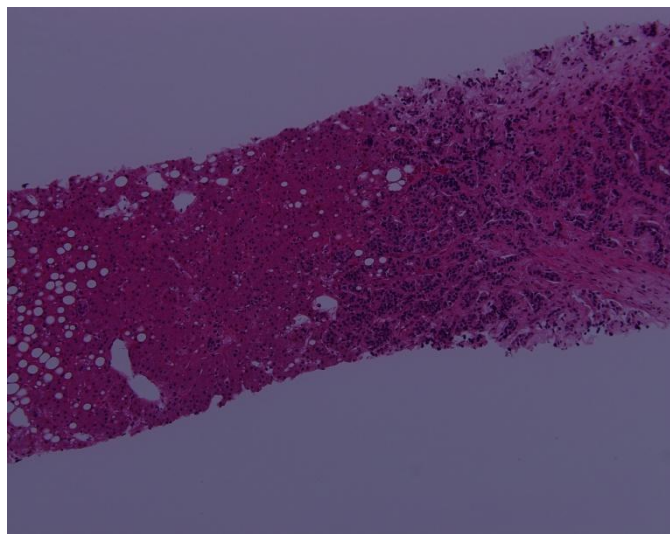
Figure 2:-Light microscopy showing a diffuse infiltration of hepatic tissue by malignant cells arranged predominantly as glands.
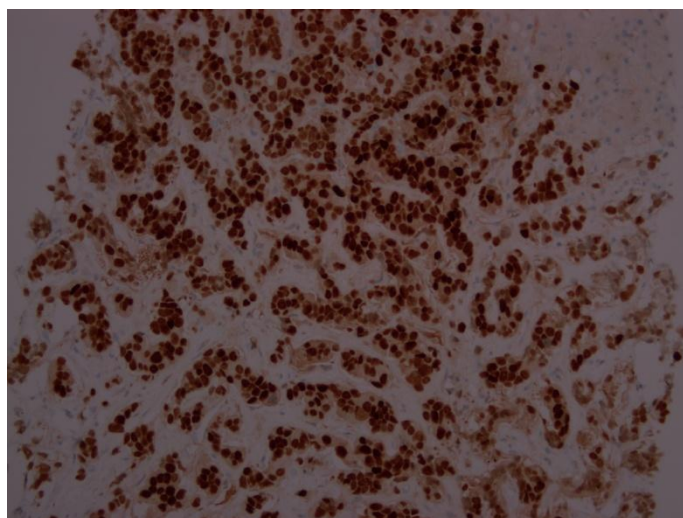

Figure3:-Diffuse infiltration of hepatic tissue by malignant cells with immune-histochemical staining positive foe estrogen receptors.
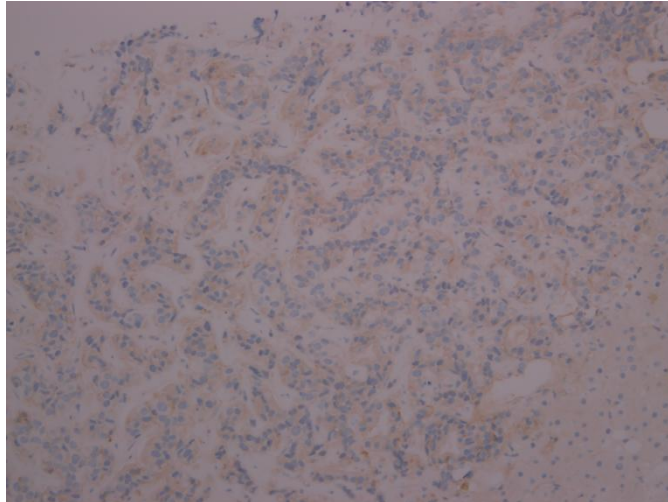
Figure4:-Diffuse infiltration of hepatic tissue by malignant cells with immune-histochemical staining negative for HER2neu receptor.

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