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A Case of Chronic Myelogenous Leukemia in a known patient of Carcinoma Breast

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Abstract :

We report here, a case of a 65 year old female who was admitted with complaints of dragging type of abdominal pain and early satiety, who on examination had massive splenomegaly. Further evaluation revealed her to be a case of Chronic Myelogenous Leukaemia. She was a known case of Carcinoma Breast who was operated in 2008 and was regular follow up. She was treated with Imatinib Mesylate and was discharged in reasonably good health.

Keyword : Massive splenomegaly, Carcinoma Breast, Chronic Myelogenous Leukaemia

Introduction:

Chronic myelogenous leukaemia (CML) is a myeloproliferative disorder with a characteristic cytogenetic abnormality. The incidence of CML is 1.5 per 100,000 people per year. [(1)] The diagnosis of CML is established by identifying a clonal expansion of a hematopoetic stem cell possessing a reciprocal translocation between chromosomes 9 and 22. Breast cancer is a malignant proliferation of epithelial cells lining the ducts or lobules of the breast. In 2010, about 180,000 cases of invasive breast cancer and 40,000 deaths occurred in the United States. [(1).] CML as a second malignancy has not been well documented especially if prior chemotherapy was not used.

Case Report:

A 65 yr old female presented with complaints of abdominal fullness and early satiety for one month. Patient had a past history of being diagnosed with Carcinoma of left breast stage II B in 2008 for which she underwent modified radical mastectomy with axillary lymph node dissection. Patient refused adjuvant chemotherapy at that time and was started on Tab. Tamoxifen 20 mg twice daily. General physical examination was significant for the presence of pallor. Examination of the abdomen showed a massive splenomegaly 16 cm below left costal margin which had a smooth surface and was firm and non-tender. There was no other organomegaly or free fluid. There was a mastectomy scar over the left chest wall. Other system examinations were normal.

Investigations:

The Haemoglobin was found to be 8.4 g%, total leukocyte count was 168,000 cells/cu mm and platelet count was 563,000 cells/cu mm.

Peripheral smear showed normochromic normocytes, few hypochromic microcytes and occasional nucleated Red Blood Cells.

WBC count was markedly increased with cells of myeloid series seen in different stages of maturation.

Differential Count- Blasts- 2%, Promyelocytes- 2%, Myelocytes -22% , Metamyelocytes- 4%, Band forms – 10%, Neutrophils -50 %, Basophils – 4%,
Eosinophils -3%, Lymphocytes – 3%. Platelets were normal in number and few giant platelets seen.

Other routine blood investigations were normal.

A ***bone marrow smear*** showed Hyper cellular Marrow.Erythropoesis showed normoblastic maturation. Leucopoiesis was increased with cells of myeloid series seen in different stages of maturation with 3% blasts. Megakaryocytes were seen. A diagnosis of ***Chronic Myelogenous Leukemia.***

Chronic Phase was suggested. We proceeded with a BCR/ ABL translocation assay using RT- PCR and Gel Electrophoresis. Hybrid transcript for BCR/ ABL ***was detected*** in the leucocytes of peripheral blood. Genomic breakpoint observed at e14a2 corresponding to p210. Hence we made a ***final diagnosis*** of ***Chronic Myelogenous Leukaemia in Chronic phase, in a patient previously treated for Carcinoma Breast.***

Discussion:

Breast cancer is the most common tumor in women in United States; one in eight women will be affected in their lifetime. [(6).]Common sites of breastcancer metastasis include lungs, liver, bones, soft tissue, brain, and adrenal glands. [(6).]

Gastrointestinal (GI) tract metastases from breast origin are considered rare in clinical practice; however, the occurrence in autopsy series varied from 8% to 35%. [(6).] Most series report a greater propensity for lobular carcinoma to metastasize to the GI tract; reports on this subject in the literature are poor and mostly limited to case reports. [(6).]

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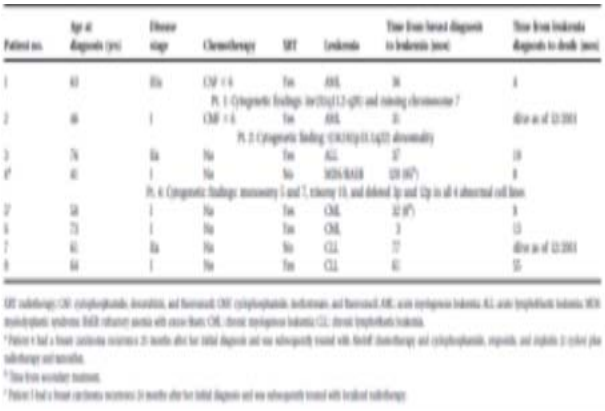
Isolated splenic metastases from breast carcinoma are rare. This has been rarely described in the medical literature. One case of isolated splenic metastasis was reported in a 48 year old woman from Saint Louis, Missouri. [7].

The risk of developing CML after primary carcinoma of breast is not well characterised. Major U.S studies of leukaemia risk have used SEER data or data from Randomised Control trials. Collectively, these studies contain data on patients treated between 1971 and 2001.

Three of these five studies (Fisher et al. [2], Curtis et al [4], and Smith et al [3],) reported a statistically significant association between chemotherapy (alone or in combination with radiotherapy) and leukaemia risk.

Kaplan et al did a study on leukaemia following breast carcinoma which showed a crude overall leukaemia incidence rate of 0.28 %. Eight incident cases of leukaemia out of which two cases of AML, one case of ALL, one case of MDS, two cases of CML and two cases of CLL were documented from a total of 2866 primary breast carcinoma patients followed up over an average duration of 5.46 years. Here is the table on the study done by Kaplan et al [5], on leukaemia following breast carcinoma treatment.

CASES OF LEUKEMIA IN PREVIOUSLY TREATED CARCINOMA BREAST.



Interestingly ***no records*** on cases of CML after primary carcinoma breast who underwent only a surgical resection and no adjuvant chemotherapy ***in India have been found.***

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