Abstract

- We present the case of a patient with metastatic breast cancer who consequently developed myelofibrosis with symptomatic cytopenias. Subsequent treatment of the breast cancer led to regression of the cytopenias and symptomatic improvement.
- Myelofibrosis (MF) is characterized by intramedullary fibrosis deposition with cytopenias and extra-medullary hematopoiesis.
- The disorder may be primary (PMF) or antecedent to other disorders. Rarely has it been described in association with breast carcinoma.
- Development of myelofibrosis prior to breast cancer is more frequently reported within the literature.
- Myelofibrosis secondary to breast cancer is rare with the potential for reversibility upon treatment of the breast cancer.

Patient Overview

- A 77 year old female was diagnosed with osseous metastatic ER+, PR+, HER-2/NEU normal breast cancer.
- Her past medical history included hyperlipidemia, hypothyroidism and osteopenia.
- Her family history was notable for both a father and maternal uncle with metastatic cancer of unclear type.
- Medications at the time of breast cancer diagnosis included simvastatin, levothyroxine, polyethylene glycol and hydrocodone/acetaminophen.

Patient Course

- Following diagnosis, the patient received four years of treatment with anastrozole.
- Disease progression was noted after four years and therapy was subsequently changed from anastrozole to fulvestrant.
- Within 15 months of treatment with fulvestrant, the patient developed anemia (Hgb 9.2 g/dL) and thrombocytopenia (platelet 38 x 10^9/L) with profound fatigue.
- A peripheral smear revealed leukoerythroblastic changes and CT abdominal imaging identified new hepatic metastases without splenomegaly (8.7 cm).
- A bone marrow biopsy showed markedly reduced hematopoietic cells and small clusters of metastatic tumor cells surrounded by marked reticulin and collagen fibrosis consistent with myelofibrosis.
- Therapy was subsequently changed to intravenous capecitabine.
- Oral capcetabine was subsequently instituted resulting in marked reduction in tumor markers, stabilization of tumor burden, improvement in cytopenias, resolution of fatigue and resolution of PRBC transfusion requirements.

Conclusions

- The development of myelofibrosis following breast cancer is rare and reported less frequently than the development of breast cancer following myelofibrosis.
- The presentation of myelofibrosis in the setting of breast cancer is similar to that of primary myelofibrosis.
- Secondary myelofibrosis has the potential to reverse upon treatment of the breast cancer.

References