Challenging in management of concurrent diagnosis of triple negative breast cancer and multiple myeloma

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INTRODUCTION

Triple negative breast cancer (TNBC), is a term used for breast cancer based on immunohistochemistry, which is estrogen receptor negative, progesterone receptor negative and human epidermal growth factor receptor 2 negative.

TNBC is characterized by its aggressive behavior and much poorer prognosis.

Multiple myeoloma (MM) is a clonal plasma cell neoplasm. A monoclonal immunoglobulin was produced by the neoplastic proliferation of plasma cells.

This is the first case has been reported that TNBC and MM was diagnosed concurrently and challenging in managing both conditions.

PRESENTATION

A 65-year-old female reported experiencing fatigue and weight loss (38lbs) over the past few months. Her labs showed worsening anemia and declining kidney function.

Mammogram screening revealed 11mm nodule. Ultrasound-guided core needle core biopsy of the right breast confirmed triple negative invasive ductal carcinoma.

Investigations for anemia revealed mild gastritis with further tests showing elevated lambda free light chains, a positive Coombs test, and abnormal SPEP. A bone marrow biopsy confirmed a diagnosis of multiple myeloma.

Due to the risk of cytopenia from her bone marrow disorder, she underwent surgery for breast cancer before adjuvant chemotherapy and initiated treatment with of bortezomib with dexamethasone for multiple myeloma.

DISCUSSION

For localized TNBC, the standard treatment involves initial chemotherapy to prevent tumor spread and destroy active cancer cells, follow by surgical resection. In this case, patient's diagnosis of MM complicates matters. MM leads to the suppression of normal plasma cell function, hypogammaglobulinemia and neutropenia, increasing the risk of infection. Initiating chemotherapy could exacerbate these risks. As a result, starting with antineoplastic agents such as bortezomib and prednisone to achieve MM remission may be a more prudent approach. Simultaneously, surgical removal of the breast tumor to prevent further spread should be considered, with the option to introduce chemotherapy later, depending on the patient's blood cell function and overall health.

REFERENCES

1.Perou CM. Molecular stratification of triple-negative breast cancers. *Oncologist.* 2011;16(Suppl 1):61–70. Dent RTM, Prit

2.Cha rd KI, Hanna WM. Triple-negative breast cancer: Clinical features and patterns of recurrence. *Clin Cancer Res.* 2007;13:4429–4434.