A Rare Case of Triple Synchronous Colon and Metachronous Breast Cancer in an Elderly Male

Mohammed Gandam, MD[1]; Aquila Fathima, MD[1]; Chenyu Sun, MD[1]; Iqbal Ahmed, MD[3]; Ramsha Faatima MBBS[2]; Qurrat ul Ain, MD[1]; Alan Auerbach, MD[1]; Sujatha Kailas, MD[1]; George Atia, MD[1].

[1]Ascension Saint Joseph Hospital, [2]Fathima Institute of Medical Sciences, [3]Loma Linda University Medical Center

Ascension Saint Joseph

Take Home Points

- Although rare, a synchronous or metachronous breast lesion in a patient with a known colon cancer diagnosis should be carefully evaluated to avoid misdiagnosing MPM with metastasis.
- Efforts should be made to look for other primary sites as part of routine follow up and patients should undergo age-appropriate screenings.
- Genetic similarities in colon and breast cancer may confer higher susceptibility to acquire the other type of primary cancer when patient have a preexisting cancer diagnosis with breast or colon cancer.
- Further research to establish genetic predisposition or environmental factors predisposing to colon and breast cancer needs to be studied. With longer life expectancies with advanced cancer therapeutics, we expect the prevalence of MPM to rise in the coming future.

CONTACT

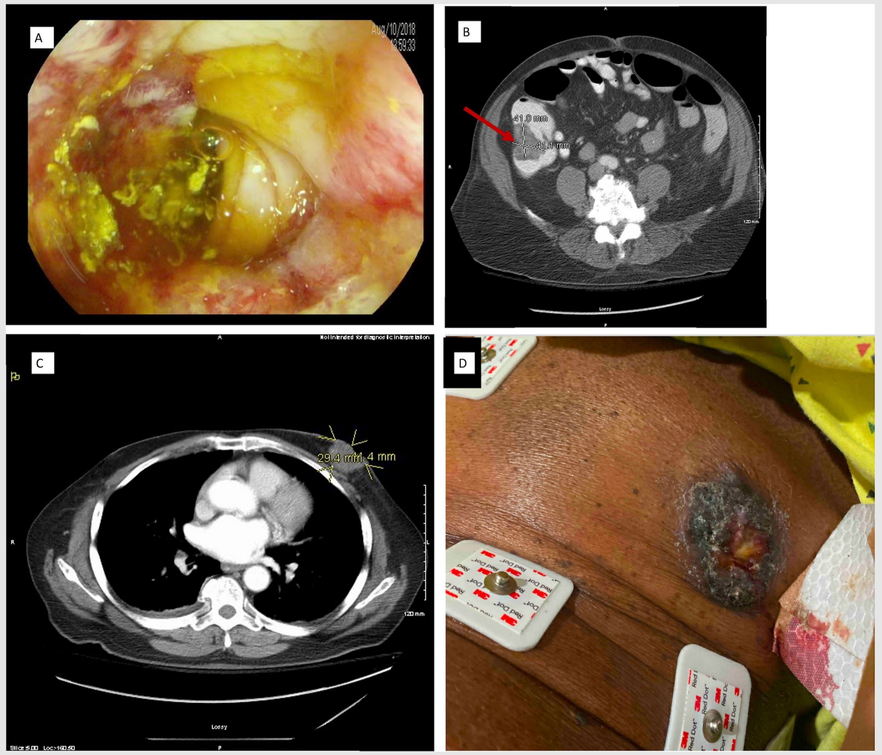
Mohammed Gandam, MD
Ascension Saint Joseph Hospital
drmdraasiq@gmail.com
Website:
18478a5a?lipi=urn%3Ali%3Apage%3Ad_flagship3_profile_view_base_contact_details%3BTkUv9rafSZGHskvKhk60dQ%3D%3D

INTRODUCTION

- Although rare, Multiple Primary Malignancies (MPM) are being commonly found due to rise in elderly cancer survivor population, increased awareness and management.
- MPMs can be classified into synchronous which are malignancies detected < 6 months in at least 2 different tissues or metachronous in which malignancies are detected > 6 months later in at least 2 different tissues after diagnosis of primary cancer.
- The association between breast and colon cancer is well documented in the literature with several studies reporting the coexistence of common extrinsic and genetic predisposing factors.
- However, the risk of developing MPMN could be significantly increased by immunosuppressive cancer treatments such as radiation and chemotherapy.

Case Description

- A 77-year-old AA male patient with a history of gout, seizures, anemia, hypertension and hyperlipidemia initially presented with a Hb of 5.8, 8 months prior to index presentation which was treated with blood transfusions but was lost to follow up for a colonoscopy.
- At index presentation, his Hb was 5.5. A CT AP showed a 4 cm mass in the ascending colon, hepatosplenomegaly and a 1 cm right adrenal mass.
- Colonoscopy showed 4.5 cm sigmoid colon invasive moderately differentiated adenocarcinoma, a 1.5 cm hepatic flexure adenocarcinoma and a 5 cm moderately differentiated adenocarcinoma in ascending colon. CEA was noted to be 19.6.
- No evidence of metastasis was noted. He underwent total abdominal colectomy with 0/13 peri-colonic lymph nodes without evidence of metastasis with a T3N0M0 stage. MLH-1, MSH-2, MSH-6, PMS-2 negative.
- A follow up CT abdomen and pelvis for the adrenal mass and subsequent work up was suggested but he was lost to follow up.
- Three years later, he was found to have a 3 x 2.5 cm grade 2 invasive ductal carcinoma in the left breast with ulceration which was CDX2 and TTF1/Napsin negative, GATA-3 positive suggestive of a primary breast neoplasm.
- He was HER-2 negative, ER+, PR+, Ki-67 - 60.78% strong with lympho vascular and perineural invasion with a pT4 stage.
- A CT chest showed multiple metastatic lesions not amenable for biopsy by interventional radiology or by EBUS.
- He underwent left palliative mastectomy, palliative radiotherapy to spinal metastasis and palliative chemotherapy for breast cancer. CEA was 5.6.



A - Sigmoid colon adenocarcinoma B - Apple core mass in the ascending colon
C - Left breast mass without lymphadenopathy D - Ulcerated left breast mass

DISCUSSION

- MPMNs were first described in the 19th century and their incidence has risen over the last couple of decades.
- This patient is unique in that three **large synchronous colon cancers** and a **large metachronous primary breast neoplasm** were found in a **male** patient**.**
- To the best of our knowledge, this is a first reported case of a triple synchronous colon and a breast cancer in a **male** which is not metastatic but a metachronous cancer.
- Previous case reports were noted mostly in females who mostly had ductal invasive carcinoma and a majority of them had synchronous ductal cancers as opposed to lobular breast cancer in our patient.
- There are genetic similarities between colon and breast cancers. BRCA1-2 seem to confer a higher susceptibility to colon cancer.
- The association between breast and colon cancers should not be dismissed merely as metastasis and males should undergo a thorough physical exam during follow up.

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