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Her2-positive Breast Cancer Patient with Brain Metastases with Complete Response
DISCLOSURE OF INTEREST

- none
Case Presentation

- 55 year-old postmenopausal female

- Presenting with RIGHT breast mass. A palpable axillary lymph node and no distant metastasis on work-up.

- Initial impression: Invasive Ductal Carcinoma, Right Stage IIIB (cT4bN1M0), ER negative, PR negative, Her2neu positive, Ki67 90%

- Patient given neoadjuvant 4 cycles of AC followed by 4 cycles of Docetaxel
Past Medical History: (-)hypertension, type 2 DM, Tuberculosis, asthma
(+ )allergies: squid
Family History: (-)type 2 DM
  (+)hypertension- sibling
  (+)asthma- father
  (+) head and neck malignancy-mother, unrecalled age
Physical examination

- No enlarged cervical lymph nodes
- (+) 9.5x 9cm right central breast mass, fixed with skin dimpling and erythema, nontender, no discharge
- (+) 1x 1cm right axillary lymph node, movable, nontender
- Normal breath sounds, no murmur
- Soft, nontender abdomen, no palpable mass
- No edema

Neurologic exam:
- Oriented, no memory impairment
- Intact cranial nerves
- No sensory or motor deficit
- No dysmetria, No dysdiadochokinesia, (-) Romberg’s sign
History

- Modified Radical Mastectomy (MRM), RIGHT (January 12, 2017)
- Surgical pathology:
  - INVASIVE DUCTAL CA., HISTOLOGIC GRADE 3 & NUCLEAR GRADE 3
  - TUMOR SIZE: 4.8 CM
  - (+) LYMPHOVASCULAR INVASION
  - SKIN AND NIPPLE: UNREMARKABLE
  - ALL SURGICAL MARGINS NEGATIVE FOR TUMOR.
  - (+) METASTASIS TO TWO (2) OF TEN (10) AXILLARY LYMPH NODES, WITH ONE (1) POSITIVE NODE SHOWING EXTRANODAL EXTENSION. (ypT2N1)
- Breast Panel: ER negative, PR negative, Her2neu positive
4 weeks post-MRM

- Loss of consciousness
- Brain MRI: Heterogeneously enhancing foci (3) in the left frontal lobe and right cerebellum, the largest measures 1.6 x 2.1 x 1.3 cm (AP x T x CC) in the right cerebellum
- Last Evaluation (12/2016) – negative for metastases
- Given steroids and whole brain radiotherapy (WBRT) (Feb 2017)

- 1st line metastatic treatment:
  - Weekly Paclitaxel for 12 weeks along with Trastuzumab infusion until disease progression (last infusion 9/30/2019)

- No evidence of disease as of last evaluation
Questions

- Given the propensity of brain metastasis in HER2 positive breast cancer, in the locally advanced HER2 positive breast cancer, is baseline brain imaging indicated?
- When is the safest time to give chemotherapy after brain RT?
- What is your opinion on the use of the following anti-HER2 treatments in terms of brain penetration – pertuzumab, ado-trastuzumab, lapatinib, neratinib, tucatinib?
- In case patient progress after trastuzumab (If financial constraint is not an issue) would it be better to give lapatinib containing treatment since it is known to cross the blood brain barrier?
  - What’s your opinion about the upcoming oral TKI (tucatinib) for patients with brain metastasis.