A Case Report on Aggressive Breast Cancer

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ABSTRACT
Human epidermal growth factor receptor-2 (HER 2) positive breast cancers represent a highly aggressive breast cancer subtype and are associated with a worse prognosis. They tend to be more aggressive with lower survival rates but with a better prognosis than the triple-negative subtype.

Keywords: Humans; Prognosis; Survival Rate

INTRODUCTION
The incidence of breast cancer has been increasing and it is the leading cause of death in women worldwide. Several factors like molecular subtypes, tumour grade and axillary lymph node status impact the prognosis of breast cancer with molecular subtypes being the most important. The human epidermal growth factor receptor 2 (HER2) overexpression is seen in 20% of breast cancer cases and has a lower survival rate. HER2+ patients can be hormone receptor-positive (HR+) or hormone receptor-negative (HR-). HER2+/HR-tumours have a higher tendency to metastasize to the brain compared to bone, are more likely to cause death within the first five years of diagnosis, and have a more favourable response to neoadjuvant chemotherapy. Here, we report a case report of an aggressive transition from BIRADS 3 lesion to BIRADS 5 within 8 months duration. IHC showed HR negative HR-/HER2 positive breast cancer.2,3

CASE REPORT
A 66-year female was referred from surgical OPD with a complaint of a palpable lump in her right breast for the last 15 days. This patient had done a screening mammogram 8 months back (Figure 1) which showed two nodules measuring 6 mm and 7 mm respectively with circumscribed margins in the central part of the right breast. BIRADS 3 was assigned. A diagnostic mammogram this time (Figure 2) revealed an approximately 29.9 x 29.2 mm in size round high-density mass with indistinct margins in the outer central quadrant of the right breast. No suspicious calcifications were seen. Ultrasound showed an irregular hypoechoic...
mass with angulated margins at the 7 o’clock position. An approximately 19.5 x 8.7mm sized lymph node with cortical thickening of 7.0 mm was seen in the right axilla. USG-guided true cut biopsy of the mass and FNAC from the right axillary lymph node was done. Histopathological examination revealed invasive carcinoma of no special type grade 3. DCIS was present. IHC was ER -, PR -, Her2 neu 3+ and Ki 67-40%. The patient underwent modified radical mastectomy (MRM) of the right breast with axillary lymph node dissection. Histopathology revealed an approximately 2.5 x 2.5 x 2.5cm invasive carcinoma of no special type with an overall grade of 3. DCIS was present. Nine out of 18 dissected lymph nodes were positive for tumour (9/18). The margins were clear. The final pathologic staging was (pTNM, AJCC 8th edition) pT2N2a.

The patient is currently receiving TCH protocol (Taxotere or Taxol, carboplatin, and Herceptin) adjuvant chemotherapy 3 weekly and targeted therapy (trastuzumab 3 weekly) for 1 year with adjuvant radiotherapy.

**DISCUSSION**

For all invasive breast cancers, an average of 191 days of tumour volume doubling time (TVDT) has been previously reported. The doubling time is significantly shorter for TN and HER2+ tumours compared to luminal breast cancers according to a previous study. High-grade tumour, ER negativity, younger age and elevated Ki-67 index were associated with shorter durations of TVDT. A study done in Canada found that triple-negative cancers (TNBC) and ER-/HER2+ tumours are diagnosed more frequently as interval cancers than as screen-detected and it was due to the more rapid growth of these tumours and not to a failure to identify these tumours mammographically.4,5,6,7,8,9

In our case, ER /PR was negative with a high Ki-67 40%. HER2-positive breast cancers have an increased risk of local recurrence and metastases with poorer overall prognosis. However, treatment...
with targeted monoclonal antibody therapies such as trastuzumab and pertuzumab provides better local-regional control and leads to improved survival outcomes.

CONCLUSION
HER2-positive breast tumours are a highly aggressive subtype with a poor prognosis. Although they often have poorer survival rates and are more aggressive, their prognosis is generally better than that of the triple-negative subtype.

CONFLICT OF INTEREST
None

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None

REFERENCES