Treatment approach for small cell breast carcinoma

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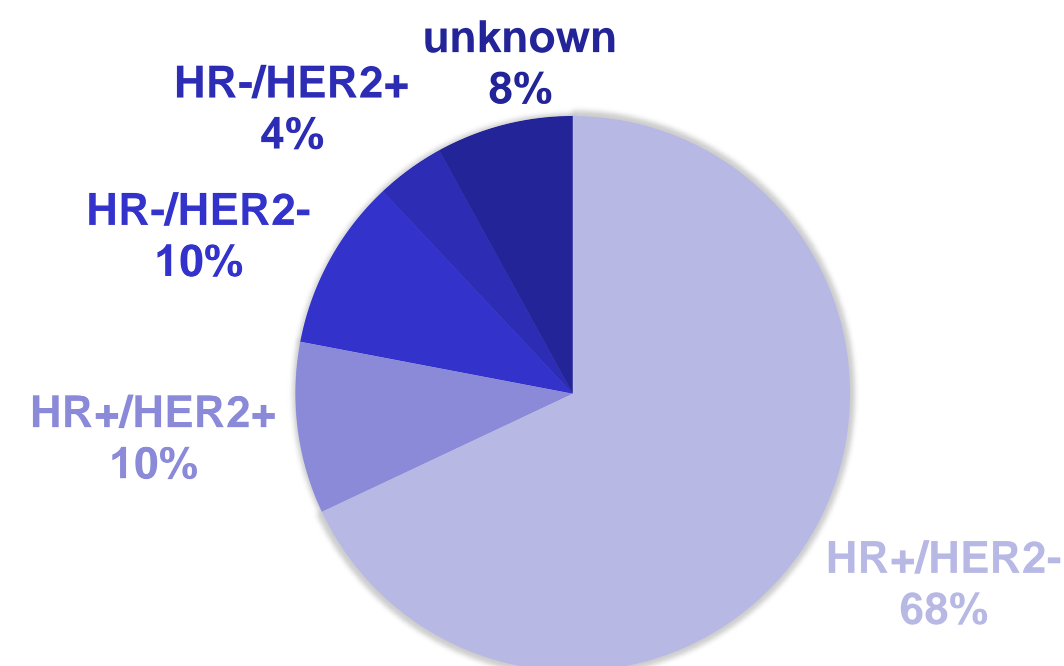
Introduction

- Extrapulmonary small cell carcinoma (EPSCC) is a rare, aggressive, and lethal cancer that develops outside the lungs.
- EPCC accounts for 2.5-5% of all small cell carcinomas and 0.1-0.4% of all cancers.
- EPSCC most commonly occur in gastrointestinal and genitourinary systems
- Small cell breast carcinoma (SCBC) is a rare form of EPSCC and represents <1% of primary breast cancers
- Treatment for SCBC is derived from limited evidence found in case reports and extrapolated from the guidelines for small cell lung cancer.
- An alternative treatment approach involves following breast cancer guidelines for small cell breast cancer (SCBC) based on estrogen receptor (ER), progesterone receptor (PR), and HER2 status.

DISTRIBUTION OF FEMALE BREAST CANCER SUBTYPES, US, 2015-2019



- For early-stage triple-negative breast cancer (TNBC), the most effective treatment regimen is chemoimmunotherapy with pembrolizumab combined with carboplatin/paclitaxel, followed by doxorubicin/cyclophosphamide.

Methods

- Chart review from electronic medical records from October 2022 to September 2024.

Case Timeline

50-year-old woman presents to PCP for a lump in her right breast.

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Bilateral diagnostic mammogram demonstrates irregular mass with spiculated margins and associated heterogeneous calcifications.

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US guided biopsy shows high grade endocrine tumor. No adenocarcinoma component present. ER < 1%, PR < 1%, HER 2 0-1% with no gene amplification.

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PET CT Single focus of abnormal uptake involving a 12 mm circumscribed soft tissue density within the mid right breast, 6.26 SUV. No malignant metabolic activity per FDG-F-18 metabolism identified elsewhere in the study.

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Right mastectomy with sentinel lymph node biopsy: 0.7 cm high grade small cell carcinoma, intermediate variant. Margins negative. 4/8 lymph nodes with metastic carcinoma. Stage pT1b pN2a.

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Initiated adjuvant therapy with carboplatin/paclitaxel with pembrolizumab then doxorubicin/cyclophosphamide with pembrolizumab followed by post-mastectomy radiation and maintenance pembrolizumab.

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No evidence of recurrence with imaging, and no circulating tumor DNA detected. 23 months after diagnosis she remains with no evidence of recurrence.

Conclusion

- The most effective treatment for primary TNBC is a viable treatment option for primary triple-negative SCBC
- Consider ER, PR, HER2, and other molecular and biological markers when determining chemotherapy
- Guide future research and clinical guidance in the treatment of SCBC