Introduction

- Improvement in early cancer detection and advances in treatment and supportive care have resulted in an increasing number of cancer survivors and the sequelae.

- Second primary malignancy (SPM) is defined as a second de novo malignant neoplasm in a person who has had cancer and is due to variety of factors including genetic predisposition, common environmental exposures, immune related factors and the late effects of previous chemotherapy and radiation.

Aim of the study

- To assess the prevalence of breast cancer as second primary malignancy in cancer survivors

Materials and Methods

- Patients treated in the breast cancer clinic, Department of Medical Oncology at Regional Cancer Center, Kerala, a leading tertiary cancer center in South India during the period January 2017 to December 2019 were studied.

- Details of site of initial malignancy, age at presentation, stage and treatment received, interval between first and second malignancy, clinical staging and management details and status at last follow-up were noted from the case records. Those patients with prior histologically proven breast cancer were excluded from the analysis.

Results

- 25 out of 3500 patients presented with breast cancer as SPM, 24 females and one male

  
  
  Site of primary malignancy

  
<table>
<thead>
<tr>
<th>Primary site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osteosarcoma</td>
</tr>
<tr>
<td>Lymphoma</td>
</tr>
<tr>
<td>Acute leukemia</td>
</tr>
<tr>
<td>Thyroid</td>
</tr>
<tr>
<td>CML</td>
</tr>
<tr>
<td>Myeloma</td>
</tr>
<tr>
<td>Oral Cavity</td>
</tr>
<tr>
<td>Endometrium</td>
</tr>
<tr>
<td>Others</td>
</tr>
</tbody>
</table>

  The median time interval between the primary and secondary malignancy was 9 years (range 2-26 years)

- SPM is reported more in elderly patients. The median age at diagnosis of second malignancy was 59 years (range 39-79 years) and 76% of the patients were more than 50 years of age.

- One patient with triple negative breast cancer (TNBC) who had a previous thyroid malignancy at the age of 35 was detected to have a BRCA-1 mutation.

- Most of the patients presented with early stage breast cancer and none was metastatic at presentation.

Treatment of breast cancer

- All patients received curative treatment based on the stage and tumor biology.

- Patients who had received Anthracyclin as part of their initial treatment, the same was avoided in the management of second primary cancer. Taxane with cyclophosphamide (TC) and Taxane, Carboplatin with Trastuzumab (TCH) were the two regimes used in this group.

- All of the HER2 positive patients received anti HER2 agent Trastuzumab.

- Hormone positive patients received endocrine agents based on the menopausal status.

- Patients who were on targeted agents were allowed to continue the treatment with adequate monitoring.

- In one of the patients who had received mantle field radiation for Hodgkin’s lymphoma and later presented with locally advanced breast cancer, chest wall radiation was planned with the appropriate dose adjustments.

Conclusion

- Second primary malignancies are infrequent but serious events in a person with history of cancer.

- Thyroid cancer being a common malignancy reported in our population with high cure rate especially in females, is the common primary malignancy reported in this study.

- The possibility of SPM must always be considered in the follow up visit of cancer survivors as early detection improves the prognosis in most of them and they should be encouraged to make use of the screening programs.

Disclosure: No conflict of interest to declare