INTRODUCTION

➢ Tyrosine Kinase Inhibitors (TKI) are used to for the targeted treatment of hematologic malignancies
➢ FDA approved indications for ibrutinib have been steadily increasing since 2013
➢ Some TKIs have been shown to have endocrine side effects (S/E)- however there is a paucity of literature regarding ibrutinib specifically

METHODOLOGY

➢ Retrospective observational single center study of all adults who initiated ibrutinib from Nov 2013 to Jan 2020 for treatment of any malignancy or graft vs. host disease

OUTCOMES

➢ Primary Outcome: To determine the frequency of endocrine related S/E associated with ibrutinib
➢ Secondary Outcomes: To evaluate if clinical outcomes differ among patients with pre-existing endocrine comorbidities who received ibrutinib

<table>
<thead>
<tr>
<th>Total patients</th>
<th>N = 105</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>18%</td>
</tr>
<tr>
<td>Age</td>
<td>72 ± 11 years</td>
</tr>
<tr>
<td>Stage IV cancer</td>
<td>39%</td>
</tr>
<tr>
<td>Prior endocrinopathy</td>
<td>72%</td>
</tr>
</tbody>
</table>

RESULTS

➢ Three patients (2.8%) developed endocrine related S/E after ibrutinib initiation (Table 1)

<table>
<thead>
<tr>
<th>Endocrine related side effect</th>
<th>Age</th>
<th>Time from last ibrutinib dose to onset of S/E</th>
<th>Concurrent anti-neoplastic agents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperparathyroidism</td>
<td>71y</td>
<td>3 months</td>
<td>-</td>
</tr>
<tr>
<td>Hypothyroidism</td>
<td>83y</td>
<td>6 months</td>
<td>Bendamustine</td>
</tr>
<tr>
<td>Gynaecomastia</td>
<td>79y</td>
<td>10 months</td>
<td>Chlorambucil</td>
</tr>
</tbody>
</table>

➢ Twenty-two patients (21%) in total developed S/E attributed to ibrutinib
  ❖ Most common non endocrine S/E - Gastrointestinal (N/V/diarrhea)
  ❖ Time to discontinuation of ibrutinib - 10.9 months
  ❖ Most common indication for use - CLL (74%)
  ❖ No statistically significant difference in mortality between those with and without endocrine comorbidities on ibrutinib (p=0.81) (Figure 1)

LIMITATIONS

➢ Small sample size
➢ Association of endocrinopathies and ibrutinib did not necessarily indicate causation

CONCLUSIONS

➢ Although many TKIs have been associated with subsequent endocrinopathies, this is not a common association with ibrutinib
➢ Presence of pre-existing endocrine comorbidities had no effect on overall survival in patients on ibrutinib
➢ Although rare, early recognition of this S/E is important to facilitate prompt treatment

REFERENCES


Figure 1: Kaplan-Meier survival curves comparing all-cause mortality of patients on ibrutinib with and without endocrine co-morbidities