A retrospective chart review was performed for patients with a diagnosis of malignancy, a central line and positive blood cultures admitted to the Stollery Children’s Hospital from January 2017 to June 2019. Oncological diagnoses, information regarding central line placement and microbiological data were recorded. Cases were reviewed and the bloodstream infections classified into HA vs CA, and as one of CLABSI, Mucosal Barrier Injury (MBI) and secondary BSI using CDC National Healthcare Safety Network (NHSN) case definition. R studio was used for statistical analysis.

To compare the epidemiology of HA and CA bloodstream infections in pediatric oncology patients with central lines admitted to the Stollery Children’s Hospital in Edmonton, Alberta.

Hospital acquired (HA) central line associated blood stream infection (CLABSI) is an important benchmark of Infection Prevention Control (IPC) programs. While IPC programs focus on the surveillance and prevention of HA bloodstream infections including HA CLABSI, pediatric oncology patients often have long-term central lines and are prone to developing both community acquired (CA) bloodstream infections.

**RESULTS**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>CA</th>
<th>HA</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematological</td>
<td>6</td>
<td>24*</td>
<td></td>
</tr>
<tr>
<td>Solid tumor</td>
<td>9</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

*2 patients received chemotherapy for a nonmalignant hematological condition

<table>
<thead>
<tr>
<th>Event Type</th>
<th>CA</th>
<th>HA</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary - Line Related</td>
<td>15 (50%)</td>
<td>1 (3.7%)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Primary - MBI</td>
<td>2 (13%)</td>
<td>2 (13%)</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>11 (39%)</td>
<td>11 (39%)</td>
<td></td>
</tr>
</tbody>
</table>

**CONCLUSIONS**

Majority of CA bloodstream infections in pediatric oncology patients are CLABSIs that occurred at a longer period after central line insertion as compared to HA CLABSI. Reviewing line care and maintenance practices at home might decrease the rate of CA CLABSI in this patient population. It is important to include both HA and CA bloodstream infections under surveillance for overall program evaluation and quality improvement.