RESULTS

1. VAI by type of vascular access

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>AVF</td>
<td>2,332,719</td>
<td>125</td>
<td>0.05</td>
<td>0.66</td>
<td>Reference</td>
<td>0.095(0.005-0.007)</td>
<td>22</td>
</tr>
<tr>
<td>AVG</td>
<td>114,139</td>
<td>69</td>
<td>0.60</td>
<td>1.37</td>
<td>11.3(8.41-15.1)</td>
<td>0.066(0.051-0.085)</td>
<td>21</td>
</tr>
<tr>
<td>SBA</td>
<td>101,766</td>
<td>16</td>
<td>0.16</td>
<td>0.96</td>
<td>2.93(1.74-4.94)</td>
<td>0.017(0.010-0.028)</td>
<td>2.0</td>
</tr>
<tr>
<td>CC</td>
<td>71,765</td>
<td>104</td>
<td>1.45</td>
<td>5.43</td>
<td>27.4(20.9-35.1)</td>
<td>0.016(0.03-0.20)</td>
<td>62</td>
</tr>
<tr>
<td>NCC</td>
<td>42,923</td>
<td>393</td>
<td>9.15</td>
<td>5.15</td>
<td>171(140-209)</td>
<td>Reference</td>
<td>177</td>
</tr>
</tbody>
</table>

AVF: AV fistula; AVG: AV graft; SBA: Superficialization of brachial artery; NCC: Non-cuffed catheter; CC: Cuffed catheter

- Statistically significant difference in the incidence of VAI was observed between various types of access.
- The incidence of VAI in NCC was extremely high.
- When comparing our VAI incidences by type of access with those in NHI, ours were lower except that in NCC.
- Local infection was predominant in AVF and AVG; bloodstream infection was predominant in NCC and CC.

2. Trend over time

<table>
<thead>
<tr>
<th># dialysis sessions</th>
<th># VAI</th>
<th>Incidence</th>
<th>Relative risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Femoral</td>
<td>9,913</td>
<td>95</td>
<td>9.58</td>
</tr>
<tr>
<td>Subclavian</td>
<td>462</td>
<td>2</td>
<td>2.16</td>
</tr>
<tr>
<td>Internal jugular</td>
<td>21,714</td>
<td>160</td>
<td>7.37</td>
</tr>
</tbody>
</table>

- There was statistically significant decreasing trend over time in the incidence of VAI.
- Local infection and bloodstream infection were predominant in NCC and CC.

3. Risk factors

A. Insertion site (NCC)

- In order to avoid the emergent use of non-cuffed catheters, site of insertion, diabetes mellitus and indication of catheterization were evaluated as potential factors.

B. Diabetes mellitus (NCC+CC)

- For cuffed or non-cuffed catheters:
  - LCBI and CSEP
  - Induction of HD

C. Indication (NCC)

- Access trouble
- Local infection
- Diabetes mellitus

D. Seasonality

- There was statistically significant decreasing trend over time in the incidence of VAI. Between May and October, there was a significant decrease in the incidence of VAI.

CONCLUSIONS

- Incidence of VAI in Japanese dialysis patients was generally lower than that in patients in US, except in patients with non-cuffed catheters.
- Determined factors placed at the femoral site had significantly higher incidence of infections. This might be the cause of the observation stated above.
- Prevention strategy includes rigid infection control and surveillance.

ACKNOWLEDGMENT

- Members of the Dialysis Surveillance Network Japan, with contribution to this study: