30-day Surgical Site Infection and Reintervention Rates In Lower Extremity Bypass Patients at LVHN

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30-day Surgical Site Infection and Reintervention Rates In Lower Extremity Bypass Patients at LVHN

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Background

- Nat’l clean SSI rate: ~2.1%
- Nat’l LE bypass SSI rate: ~3.5-32%
- 30-day readmit rates s/p LE bypass: 28.6%
  - Most common cause of readmission
  - Increased cost to system
  - Increased morbidity & mortality
  - Decreased patient QOL
- LE bypass can be performed open or endovascularly

Problem Statement

The purpose of this project was to evaluate the 30-day SSI rate in lower extremity bypass patients at LVHN

Methods

- Internally designated & designed quality improvement (QI) single-center study
- 334 initial patients included from 2017-2018
  - Master list of CPT codes relating to LE bypass
- Reintervention CPT codes obtained from 2017-2018
  - Cross-matched two databases with retrospective chart review

Results

Table I: CPT codes and frequency of corresponding procedures from 2017-2018 at LVPG Vascular Surgery

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Procedure Description</th>
<th># of operations (2017-2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35560</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>63</td>
</tr>
<tr>
<td>35561</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>3</td>
</tr>
<tr>
<td>35562</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>3</td>
</tr>
<tr>
<td>35563</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>60</td>
</tr>
<tr>
<td>35564</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>22</td>
</tr>
<tr>
<td>35565</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>5</td>
</tr>
<tr>
<td>35566</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>7</td>
</tr>
<tr>
<td>35567</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>0</td>
</tr>
<tr>
<td>35568</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>9</td>
</tr>
<tr>
<td>35569</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>0</td>
</tr>
<tr>
<td>35570</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>20</td>
</tr>
<tr>
<td>35571</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>4</td>
</tr>
<tr>
<td>35572</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>6</td>
</tr>
<tr>
<td>35573</td>
<td>By-pass graft, with iliac, fem-fem</td>
<td>16</td>
</tr>
</tbody>
</table>

Table II: CPT codes, postop complications

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Procedure Description</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>35560</td>
<td>PR EXPLOR POSTOP BLEED, INFECT, CLOT, EXTR</td>
<td>3</td>
</tr>
<tr>
<td>10180</td>
<td>PR COMPLEX DRAINAGE, WOUND</td>
<td>9</td>
</tr>
<tr>
<td>35903</td>
<td>PR EXCISION, INFECT, GRAFT, EXTREMITY</td>
<td>4</td>
</tr>
</tbody>
</table>

Table III: Conduit and bypass types leading to 30-day groin SSI rates

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Vein</th>
<th>Graft</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fem-fem</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Fem-pop</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Fem-AT/PT/peroneal or other distal vessel</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aorto-bifem</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Axillary-bifem</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>7</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

Discussion

- SSI rate of 3.6%
  - Within nat’l reported range of 3.5-32%
  - Relatively low rate = positive news
- Overall outcomes s/p LE procedures remain poor
  - Patient comorbidities
  - High-risk and lengthy procedures
  - Association b/w PAD and CAD
- SELECT Principles
  - Cost Savings (Health Systems)
    - Avoid further interventions
    - Decrease morbidity & mortality
  - VBPCCL
    - Improve patient QOL

Conclusions

- 30-day groin SSI rate at LVPG Vascular Surgery
  - ~3.6%
  - Near lower range of nat’l reports of 3.5-32%
- Expanded inclusion criteria and more detailed chart review
  - Increase sample size
  - More robust cohort
- Assess impact of patient characteristics and peri-op variables

REFERENCES