Polytetrafluoroethylene (PTFE) Tibial and Peroneal Bypasses For Limb Salvage Are Worthwhile: Patients Having Them Have Better Short and Long-Term Cardiovascular Morbidity and Mortality (Up To 5 Years) Than Those Undergoing Amputation

VEITH Symposium 2017

Disclosures

- None

PTFE Tibial Bypass

1996

Parsons, Suggs, Veith, Sanchez, Lyon, Marin Goldsmith, Faries, Wengerter, Schwartz
Journal of Vascular Surgery

28% 5-Year Patency
66% 5 year Limb Salvage

Hypothesis

Tibial and peroneal arterial revascularization for critical limb ischemia with PTFE has improved short and long-term cardiovascular outcomes as compared to those patients undergoing amputations

Methods

- Retrospective Review
- Cohort: 443 PTFE/103 Amputations
- Period: July 1977 to January 2017 (40 years)
- Symptoms: Rest pain, Ulceration, or Gangrene

Frank J. Veith MD FACS
Vascular Surgery Fellows
Albert Einstein College of Medicine/Montefiore Medical Center

1976 – 1977 Vernus Daly
1978 – 1979 Stuart Angell
1978 – 1979 Richard Schachter
1979 – 1980 Paul Golden
1980 – 1981 Enrico Ascher
1981 – 1982 Peter Brill
1982 – 1983 Michael Marks
1983 – 1984 Michael Schwartz
1984 – 1985 Richard Faries
1985 – 1986 Paul Collier
1986 – 1987 John Yuan
1987 – 1988 Brian King
1988 – 1989 Brian King
1990 – 1991 Robert Slack
1991 – 1992 Mark Doppelt
1992 – 1993 Michael Marks
1993 – 1994 Michael Schwartz
1994 – 1995 Richard Faries
1995 – 1996 John Yuan
1996 – 1997 Brian King
1997 – 1998 Mark Doppelt
1998 – 1999 Mark Doppelt
1999 – 2000 Michael Marks
2000 – 2001 Michael Marks
2001 – 2002 Michael Marks
2002 – 2003 Nicholas Gargiulo
2003 – 2004 Charles Timaran
2004 – 2005 Greg S. Landis
2005 – 2006 Michael Schwarz
2006 – 2007 Evan C. Lipsitz
2007 – 2008 Evan C. Lipsitz
2008 – 2009 Evan C. Lipsitz
2009 – 2010 Evan C. Lipsitz
2010 – 2011 Evan C. Lipsitz
2011 – 2012 Evan C. Lipsitz
2012 – 2013 Evan C. Lipsitz
2013 – 2014 Saadat Shariff
PTFE Tibial Bypass

Patency scores

5 & 10 Year Patency > 30%
5 & 10 Year Limb Salvage > 30%

Results I
30-Day Data

<table>
<thead>
<tr>
<th></th>
<th>PTFE BYPASS (N: 443)</th>
<th>AMPUTATION (N: 103)</th>
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</thead>
<tbody>
<tr>
<td>Stroke</td>
<td>0.3%</td>
<td>3%</td>
</tr>
<tr>
<td>MI</td>
<td>0.5%</td>
<td>7%</td>
</tr>
<tr>
<td>Death</td>
<td>0%</td>
<td>7%</td>
</tr>
<tr>
<td>Readmission</td>
<td>13%</td>
<td>21%</td>
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</tbody>
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Results II
1-5 Year Data

<table>
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<tr>
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<th>PTFE BYPASS (N:443)</th>
<th>AMPUTATION (N:103)</th>
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</thead>
<tbody>
<tr>
<td>Stroke</td>
<td>0.7%</td>
<td>5%</td>
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<tr>
<td>MI</td>
<td>1.1%</td>
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<tr>
<td>Death</td>
<td>9%</td>
<td>17%</td>
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<tr>
<td>Readmission</td>
<td>15%</td>
<td>33%</td>
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</tbody>
</table>

Conclusion

- PTFE Tibial Bypass Grafting has durable 5 and 10 year patency, limb salvage, and superior cardiovascular outcomes compared to amputations.
- Tibial/Peroneal arterial revascularization with PTFE is an effective surgical strategy for critical limb ischemia.