Prevalence of Polyvascular Disease with Aorto Iliac Artery Disease
- Results from OMOTENASHI registry -

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and on behalf of the OMOTENASHI Investigators

Shin-Koga Hospital¹), Takatsu Chuo Hospital²), Kansai Rosai Hospital³), Iwaki Kyouritsu Hospital⁴), Morinomiya Hospital⁵), Fukuoka Sanno Hospital⁶), Yokohama City University Hospital⁷), Kishiwada Tokushukai Hospital⁸), Omihachiman City Hospital⁹), Osaka Saiseikai Nakatsu Hospital¹⁰), Japanese Red Cross Society Kyoto Daini Hospital¹¹), Yamato Seiwa Hospital¹²), Saka General Hospital¹³), Tokyo Rosai Hospital¹⁴), Ota Memorial Hospital¹⁵), Kasukabe Chuo General Hospital¹⁶), Chikamori Hospital¹⁷), Toho University, Ohashi Medical Center¹⁸)
Disclosure

Speaker name: Yoshiaki Shintani

I do not have any potential conflict of interest
## ACC/AHA guideline (2016)

### Aortoiliac lesions

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Class</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endovascular procedures are effective as a revascularization option for patients with lifestyle-limiting claudication and hemodynamically significant aortoiliac occlusive disease</td>
<td>I</td>
<td>A</td>
</tr>
</tbody>
</table>

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2016 AHA/ACC Guideline on the Management of Patients With Lower Extremity Peripheral Artery Disease
Journal of the American College of Cardiology (2016)
Prevalence of polyvascular disease of REACH registry

- Coronary Artery Disease (CAD): 44.6%
- Cerebrovascular disease (CVD): 16.6%
- Peripheral artery disease (PAD): 4.7%

Aorto-Iliac (AI) disease: The worst prognosis

The General Prognosis of Patients With Peripheral Arterial Disease Differs According to the Disease Localization

Peripheral artery disease (PAD) is well known for including other vascular disease.

However, the prevalence of coronary artery disease (CAD) and cerebrovascular disease (CVD) undergoing endovascular therapy for aorto-iliac (AI) artery disease is little known.
An Observational prospective Multicenter registry study on Outcomes of peripheral arterial disease patients treated by Angioplasty therapy in aortoiliac artery
65 Participating Hospitals in Japan

Enroll period: April 2014 – April 2016

Osaka Police Hospital
Osaka Saiseikai Nakatsu Hospital
Kishiwada Tokushukai Hospital
Morinomiya Hospital
Kakogawa City East Hospital
Kansai Rosai Hospital
Higashi Takarazuka Satoh Hospital
Hyogo College Of Medicine Hospital
Kyoto Katsura Hospital
Japanese Red Cross Society Kyoto Daini Hospital
Omihachiman City Hospital
Hikone Municipal Hospital

Kokura Memorial Hospital
Shin Koga Hospital
Fukuoka Wajiro Hospital
Fukuoka Sanno Hospital
Miyazaki Medical Association Hospital
Oita Oka Hospital
Okinawa Chubu Hospital

Kanazawa Medical University Hospital
Fukui CardioVascular Center
Shinshu University Hospital
Shizuoka Medical Center
Nagoya Heart Center
Matsunami General Hospital
Ise Red Cross Hospital

Kagawa Prefectural Central Hospital
Chikamori Hospital

Fukuyama City Hospital
Okayama Medical Center
The Sakakibara Heart Institute of Okayama
Iwakuni Clinical Center
Shimonoseki City Hospital

Kagawa Prefectural Central Hospital
Chikamori Hospital

Takatsuka Chuo Hospital
Sawakita General Hospital
Sakakibara Heart Institute
The Cardiovascular Institute
Tokyo Rosai Hospital
Tokyo Women’s Medical University Hospital
Toho University Ohashi Medical Center
Higashiyamato Hospital
Japanese Red Cross Musashino Hospital
St,Luke’s International Hospital
Chiba Cerebral and Cardiovascular Center
Showa University Fujigaoka Hospital

Kagawa Prefectural Central Hospital
Chikamori Hospital

Takatsuka Chuo Hospital
Sawakita General Hospital
Sakakibara Heart Institute
The Cardiovascular Institute
Tokyo Rosai Hospital
Tokyo Women’s Medical University Hospital
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Higashiyamato Hospital
Japanese Red Cross Musashino Hospital
St,Luke’s International Hospital
Chiba Cerebral and Cardiovascular Center
Showa University Fujigaoka Hospital

Takatsuka Chuo Hospital
Ota Memorial Hospital
Tsukuba Medical Center Hospital
Mito Saiseikai General Hospital
New Tokyo Hospital
Kasukabe Chuo General Hospital
Kikuna Memorial Hospital
Saiseikai Yokohamashi Tobu Hospital
St. Marianna University Hospital
Yokohama City University Hospital
Yamato Seiwa Hospital
Odawara Cardiovascular Hospital

Yamagata University Hospital
Okitama Public General Hospital
Sendai Kousei Hospital
Saka General Hospital
Iwaki Kyouritsu Hospital

Tokeidai Memorial Hospital
JCHO-Hokkaido Hospital
Engaru-Kosei General Hospital
Aims

To Investigate the prevalence of polyvascular disease in patients undergoing endovascular therapy (EVT) for Aorto-Iliac (AI) lesions
1114 patients registered with informed consent

67 patients were not analyzed (withdrawn, not performed EVT, inadequate data)

1047 patients 1304 cases who received EVT for Aorto–Iliac artery disease

698 Patients Isolated AI group

349 patients Aorto-iliac + Infrainguinal group
Isolated AI vs. AI + Infrainguinal
# Baseline characteristics

<table>
<thead>
<tr>
<th></th>
<th>Isolated Aorto-Iliac group (n = 698)</th>
<th>Aorto-Iliac + Infrainguinal group (n = 349)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male gender</td>
<td>592 (85%)</td>
<td>278 (80%)</td>
<td>0.038</td>
</tr>
<tr>
<td>Age (years)</td>
<td>72 ± 9</td>
<td>74 ± 9</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Body Mass Index</td>
<td>23 ± 3</td>
<td>22 ± 3</td>
<td>0.039</td>
</tr>
<tr>
<td>Hypertension</td>
<td>582 (83%)</td>
<td>311 (89%)</td>
<td>0.012</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>422 (61%)</td>
<td>211 (61%)</td>
<td>1.000</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>277 (40%)</td>
<td>178 (51%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Smoking</td>
<td>237 (34%)</td>
<td>123 (35%)</td>
<td>0.679</td>
</tr>
<tr>
<td>Hemodialysis</td>
<td>66 (9%)</td>
<td>75 (21%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>TASC classification</td>
<td></td>
<td></td>
<td>0.029</td>
</tr>
<tr>
<td>A</td>
<td>336 (48%)</td>
<td>161 (46%)</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>159 (23%)</td>
<td>70 (20%)</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>69 (10%)</td>
<td>57 (16%)</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>134 (19%)</td>
<td>61 (17%)</td>
<td></td>
</tr>
</tbody>
</table>
## Baseline medication

<table>
<thead>
<tr>
<th>Drug</th>
<th>Isolated Aorto-Iliac group (n = 698)</th>
<th>Aorto-Iliac + Infrainguinal group (n = 349)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin</td>
<td>498 (71%)</td>
<td>250 (72%)</td>
<td>0.923</td>
</tr>
<tr>
<td>Clopidogrel</td>
<td>494 (71%)</td>
<td>254 (73%)</td>
<td>0.497</td>
</tr>
<tr>
<td>Cilostazol</td>
<td>179 (26%)</td>
<td>93 (27%)</td>
<td>0.728</td>
</tr>
<tr>
<td>Ca-antagonist</td>
<td>98 (28%)</td>
<td>95 (27%)</td>
<td>0.697</td>
</tr>
<tr>
<td>ACE-I or ARB</td>
<td>192 (28%)</td>
<td>89 (26%)</td>
<td>0.489</td>
</tr>
<tr>
<td>B-blocker</td>
<td>96 (14%)</td>
<td>49 (14%)</td>
<td>0.899</td>
</tr>
<tr>
<td>Statin</td>
<td>354 (51%)</td>
<td>165 (47%)</td>
<td>0.294</td>
</tr>
<tr>
<td>Insulin</td>
<td>62 (9%)</td>
<td>38 (11%)</td>
<td>0.303</td>
</tr>
</tbody>
</table>
Isolated AI vs AI + Infrainguinal

- PAD only
- PAD + CAD
- PAD + CVD
- PAD + CAD + CVD

- Isolated Iliac
- Iliac + Infrainguinal

P-values:
- P = 0.005
- P < 0.001
- P < 0.001
- P < 0.001

Percentage distribution:

- PAD only: 50% (Isolated Iliac), 34% (Iliac + Infrainguinal)
- PAD + CAD: 42% (Isolated Iliac), 55% (Iliac + Infrainguinal)
- PAD + CVD: 15% (Isolated Iliac), 24% (Iliac + Infrainguinal)
- PAD + CAD + CVD: 7% (Isolated Iliac), 12% (Iliac + Infrainguinal)
# Predictors of polyvascular disease

<table>
<thead>
<tr>
<th></th>
<th>Unadjusted OR</th>
<th>Adjusted OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt; 80 years</td>
<td>1.24 [0.74–2.02]</td>
<td>1.23 [0.72–2.06]</td>
</tr>
<tr>
<td>Hypertension</td>
<td>3.09 [1.36–8.90]*</td>
<td>2.86 [1.24–8.30]*</td>
</tr>
<tr>
<td>Dyslipidemia</td>
<td>1.98 [1.23–3.30]*</td>
<td>1.91 [1.18–3.22]*</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>1.12 [0.72–1.73]</td>
<td>1.02 [0.65–1.61]</td>
</tr>
<tr>
<td>Current smoking</td>
<td>0.64 [0.38–1.03]</td>
<td>0.61 [0.36–0.99]</td>
</tr>
<tr>
<td>Hemodialysis</td>
<td>0.79 [0.38–1.51]</td>
<td>0.71 [0.33–1.44]</td>
</tr>
<tr>
<td>AI + Infrainguinal</td>
<td>1.89 [1.22–2.93]*</td>
<td>2.00 [1.26–3.16]*</td>
</tr>
</tbody>
</table>
Prevalence of polyvascular disease of REACH registry

OMOTENASHI registry vs. REACH registry (PAD side)

- PAD + CAD: OMOTENASHI 54%, REACH 52%
- PAD + CVD: OMOTENASHI 18%, REACH 23%
- PAD + CAD + CVD: OMOTENASHI 9%, REACH 13%
Conclusion

PAD patients with AI lesion + infrainguinal lesion have high rates of other vascular disease compared with Isolated AI lesion.
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