Validation of new oszillometric PAOD parameters: Puls Wave Index (PWI), Tissue Optical Perfusion Pressure (TOPP) and oszillometric ABI vs cw-Doppler-ABI

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Disclosure

Speaker name:

I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest
ABI-TOPP-PWI-measurement
ABI-TOPP-PWI-measurement
ABI-TOPP-PWI-measurement

Higher amplitude UE

\[
\text{Amplitude LE} \times \text{Time to peak} = \text{PWI}
\]

\[
\begin{align*}
\text{Left} & \quad \frac{2.65}{1,48} \times 214 = 381 \\
\text{Right} & \quad \frac{2.65}{1,23} \times 201 = 431
\end{align*}
\]
cw-Dopper-ABI vs Oszillometric-ABI

- ABI Oszillometry vs ABI cw-Doppler best
  - $R = 0.65$
  - $p < 0.001$

- ABI Oszillometry vs ABI cw-Doppler worst
  - $R = 0.59$
  - $p < 0.001$

- oABI+cwDopp ABI mean vs ABI Oszillometry
- oABI-cwDopp best ABI difference vs ABI Oszillometry

- oABI+cwDopp ABI mean vs oABI+cwDopp ABI mean
- oABI-cwDopp best ABI difference vs oABI+cwDopp worst ABI mean
cwDopp-systolic pressure vs TOPP

R = 0.899
P < 0.001

R = 0.74
P < 0.001
TOPP vs TP

\[ R = 0.77 \]
\[ p < 0.001 \]
PWI vs cw-Doppler-ABI

PWI Oszillometry vs cw-Doppler (best)

PWI Oszillometry vs cw-Doppler (worst)
Conclusion

- Good correlation of oszi-ABI vs cw-Dopp-ABI,
- Missing „patients at risk“,
- Very good correlation of TOPP vs cw-Doppler systolic pressure,
- Good correlation of PWI vs cw-Doppler-ABI,
- Increased risk of atherosklerosis in patients with normal ABI and increased PWI,
- One-stop-shop method
Next steps

- Meaning of TOPP and PWI in PAOD at rest vs after stress (133 pts, poster presentation tomorrow).
- Immediate control of improved perfusion after peripheral intervention and on follow-up!
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