Critical limb ischemia: Have we made improvement in classifying these patients in a better way?

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Disclosure

Speaker name:
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I have the following potential conflicts of interest to report:

☑ Consulting:

Medtronic, BD BARD, Spectranetics, Intact Vascular, Soundbite Medical, Biotronik, Bayer, Daiichi Sankyo, Böhringer Ingelheim, Astra Zeneca
Improvement in classification?

We all agree:

- Critical limb ischemia (CLI), is the most advanced form of peripheral artery disease
- Clinically, critical limb ischemia (CLI) is defined as ischemic rest pain, tissue loss, or gangrene in the presence of peripheral artery disease (PAD) and hypoperfusion of the lower extremity

Classifications

- Rutherford categorization
  - Class IV: Rest pain
  - Class V: Tissue loss
  - Class VI: and/or gangrene
- Fontaine classification
  - Class III: Rest pain
  - Class IV: Tissue loss or gangrene

BUT

Neither of these classifications incorporates wound size, perfusion assessment, or infection

Improvement in classification?

Second achilles' heel

- Current hemodynamic cutpoints are likely inaccurate in light of recent publications highlighting the limitation of the ankle–brachial index (ABI) and toe pressure in accurately diagnosing CLI

Improvement in classification?

An analysis of IN.PACT DEEP randomized trial on the limitations of the societal guidelines-recommended hemodynamic parameters to diagnose critical limb ischemia

- Only 14 of 237 patients (6%) had an ABI <0.4.
- **Abnormal ankle pressure**, defined as <50 mm Hg if Rutherford category 4 and <70 mm Hg if Rutherford category 5 or 6, was found only in 37 patients (16%).
- **Abnormal toe pressure**, defined as <30 mm Hg if Rutherford category 4 and <50 mm Hg if Rutherford category 5 or 6, was found in 24 of 40 patients (60%) with available measurements. Importantly, 29% of these 24 patients had an ABI within normal reference ranges.

A univariate multinomial logistic regression found no association between the above hemodynamic parameters and the number of diseased infrapopliteal vessels. However, there was a significant paradoxical association where patients with Rutherford category 6 had higher ABI and ankle pressure than those with Rutherford category 5. Similarly, there was no association between ABI and pedal arch patency.

Improvement in classification?

We have a huge tool box, but it is a little bit out of fashion.
Improvement in classification?

Step forward

- The Threatened Limb Classification System: risk stratification based on wound, ischemia, foot infection (WIfI)
  - WIfI recognizes the multifactorial nature of the threatened limb by accounting for wound size and location, concomitant infection, and the degree of ischemia
  - is intended to provide a more meaningful analysis of outcomes in these high-risk patients
Improvement in classification?

Step forward:

- The Threatened Limb Classification System: risk stratification based on wound, ischemia, and foot infection (WIfI).
- Also implemented into the ESC 2017 PAD guidelines.

Improvement in classification?

Steps done

You will hear within this meeting and the next talks, how many efforts have been made to improve classification of CLI patients

- New measurement tools (oxygen sensors...) are on the way
- New diagnostic tools (perfusion angiography...) are on the way
- Trials are performed in new techniques
- Interdisciplinary approach to integrate all stakeholders is no fear anymore
- Meetings dedicated with regard to CLI are out there (AMP, AMP Europe...)
- Societies have been founded
- Science is more focused on it than ever!
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