CLI Therapy- LINCed
Multi disciplinary discussions on CLI

Critical limb ischemia and managing the infected wound

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Disclosure

Speaker name: Michiel Schreve

I have the following potential conflicts of interest to report:

- Consulting (Vascular Insight, Limflow)
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

☐ I do not have any potential conflict of interest
Critical Limb Ischemia (CLI)

Defined (1982): an ankle pressure (AP) < 40 mm Hg in the presence of rest pain and < 60 mm Hg in the presence of tissue necrosis.

“It was generally agreed that diabetic patients who have a varied clinical picture of neuropathy, ischemia and sepsis make definition even more difficult and it is desirable that these patients be excluded or should be clearly defined as a separate category to allow the analysis of the results in the nondiabetic patients.”
Case 1

- women 46
- Rest pain
- R5/Dry necrosis
- BTK disease
- embolic lesion aorta
Case 1

- Revascularisation
- Amputation
- Healing
- No infection
World of Today
CLI and diabetes cannot be separated

• Studies on CLI; 60% diabetes (BASIL trial, PREVENT III)
• Specialized vascular centers 70-80% diabetes
• WHO projects a 170% growth of diabetes by 2025
Diabetic patients are at risk for severe foot infection due to neuropathic ulcers

The European Study Group on Diabetes and the Lower Extremity (Eurodiale)

- 575 patients; with a diabetic foot ulcer
- 28% amputated
- Predictors

2015
Independent risk factors

- periwound edema
- foul smell
- deep ulcer
- pretibial edema
- Fever and elevated C-reactive protein.

The presence of PAOD is an independent risk factor for amputation with an odds ratio of 3.
Our patients are the worst

They have Critical limb ischemia in combination with diabetic ulcer (neuroischemic)

50% of the diabetic ulcers = neuroischemic ulcers

Half of them end up with an amputation!

Treat ischemia and infection
The Dutch Guideline on diabetic foot

Multidisciplinary team: patient and the foot

vascular surgeon, endocrinologist, rehabilitation specialist, cast technician, shoe technician and a podiatrist

- The 5-year mortality is 50% to 60%, with coronary events and strokes accounting for at least 70% of the deaths

- Recurrence of ulcers is 40% in the first year*

THE SVS WIfI CLASSIFICATION SYSTEM

limb perfusion, wound depth and presence and extent of infection

• The WIfI is intended to define the disease
• Predicts amputation

Not designed to dictate treatment method
How do you prioritize revascularisation vs. treatment of infection in patients with CLI

No Studies
Guidelines yes
CASE 2

- Male 70
- CLI /Diabetes
- COPD
- Gangreen
- Osteomyelitis 1-3
- antibiotics

BTK vessel disease
R5 Wound (WIfI: W2I3fI2) moderate infection osteomyelitis

1. revascularize first
2. amputate second

prolonged antibiotics (osteomyelitis)
• ATA failed
• POBA Posterior
• $PT^2$ wire
• Sterling 3.0-150
Amputation of the forefoot

Culture (guideline):
- biopsy (tissue/bone)
- Swab (deep or Levine)

Antibiotics (guideline):
- Started empirical
- Severe infection 2-4 weeks
- Osteomyelitis 2-6 weeks

Multidisciplinair Woundcare team
International Working Group of Diabetes Foot (IWGDF/PEDIS)

Any infected ulcer should be debrided + antibiotics

- Aggressive surgical treatment
- Revascularisation when needed

Signs of sepsis: start SIRS and surgical treatment first

Case 3

- 65 Male
- Diabetes
- Renal Failure: hemodialysis
- 1st Toe Amputation

Sepsis and suspicious of 
Necrotizing Fasciitis

Tachycardia
WBC 25k

Courtesy of S. KUM
25/8/17  Sepsis treatment and Immediate disarticulation and Washout

Tissue and Bone biopsy (culture)

Emperic Intravenousous Antibiotics
BTK/ Multipele stenosis
R6 Wound (W3l3fl3) 
Sepsis + Necrotizing Fasciitis + Dialysis dependent

1. Treatment sepsis, aggressive surgical debridement
2. Revascularization and woundcare
Plantar loop (PT² wire, Armada XT 2x20)
POBA ATA/PTA
28/8/17-13/9/17

Multiple Debridement + Pulse Lavage

Tissue Culture: Mixed Growth Enteric Organisms

Antibiotics continued
6/10/17 VAC therapie
20/10/17
Split Skin Graft
27/10/17 came in with wet and infected wounds SSG not taken
“secondary healing”
Plantar epithelizing
21/12/17
Pus along plantar and dorsum osteomyelitis of the midbones

Staph Aureus bacteremia
Guillotine Amputation
11/1/18

We got the blood in, but not the infection out
Conclusion

• Diabetes is a worldwide problem and rising
• CLI and diabetes is a bad combination
• Multidisciplinary team approach
• Sepsis: aggressive SIRS and surgical treatment
  – Culture by biopsy (tissue or bone)
  – Prolonged antibiotics (culture)
Thank you for your attention
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