TRANSCUTANEOUS C02 THERAPY FACILITATES ISCHAEMIC WOUND HEALING IN A PATIENT WITH NO-CLI

PVR SYSTEM®

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CLINICAL CASE REPORT

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The patient's clinical status:

- A 60-year-old polymorbid female
- Diabetes Mellitus type II, HbA1c: 11%,
- Churg-Strauss syndrome, Cronic asthma,
- Two wounds on the left foot present for 6 months
- PAOD
- ABI of the left extremity: ATP 0.51, ADP 0.47
- CTA scan of the left extremity:

  The AFS is not patent throughout its course, a previously inserted longer stent is occluded. AFP is appropriate. AP is patent up to the P3 segment, thereafter heavily calcified, and subtotally occluded. The calf arteries are heavily calcified; ATP and ATA are not convincingly patent. AI is narrowed.

The patient was not suitable for any intervention, both endovascular and surgical.

The patient's medical history:

- A femoropopliteal bypass on the left lower limb, and a PTA AFS with stent placement was performed
- Amputation of toes III- V. on the left foot

Treatment:

Debridement, wound dressings and 20 treatments of transcutaneous CO2 with PVR System®. Tissue Oxygenation (StO2) measured with TIVITA® hyperspectral camera.

TREATMENT RESULTS

Tissue Oxygenation measurement

Blue area: deoxygenated tissue.
Green and **Yellow** areas: oxygenated tissue

Before (10.3.2023)

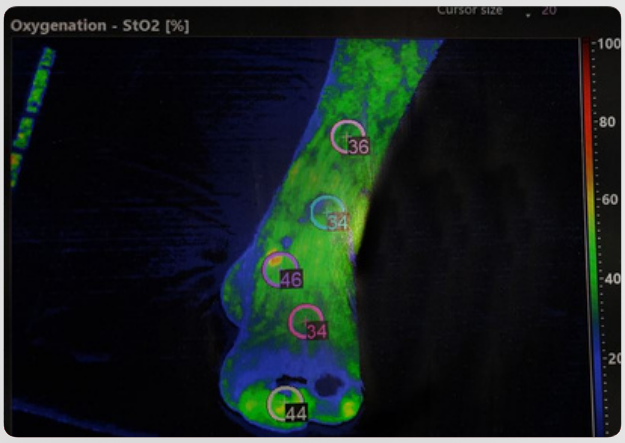

Figure 1:
Big Toe Oxygenation - StO2 44%
Wound Tissue Oxygenation - StO2 34%

After 20 treatments (28.3.2023)

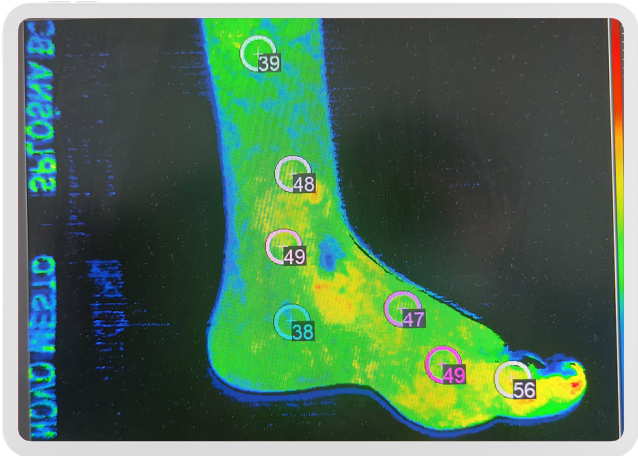

Figure 2:
Big Toe Oxygenation - StO2 56%
Wound Tissue Oxygenation - StO2 47%

HYPERSPECTRAL IMAGE DEMONSTRATES A SIGNIFICANT IMPROVEMENT IN TISSUE OXYGENATION WITH PVR SYSTEM.

Tissue Haemoglobin Index measurement

IMPROVEMENT IN THI INDICATES IMPROVED TISSUE PERFUSION.

The Tissue Haemoglobin Index (THI) improved significantly from baseline to end of treatment. The THI index measurement on the big toe of the left foot was 32% at baseline and 52% at the end of (fig. 3 and 4).

Before (10.3.2023)

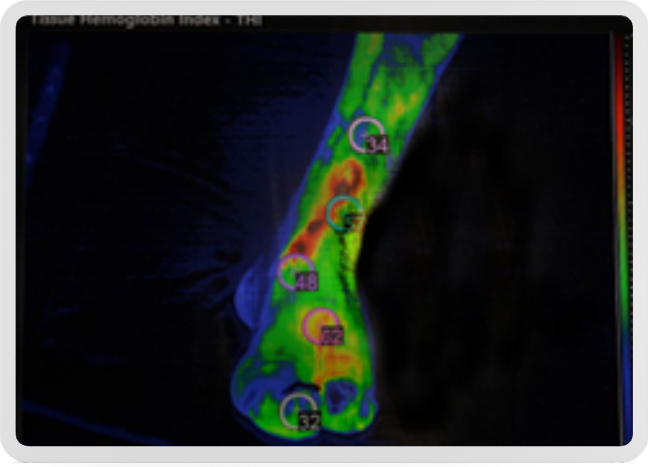

Figure 3:
Tissue Haemoglobin Index - THI 32%

After 20 treatments (28.3.2023)

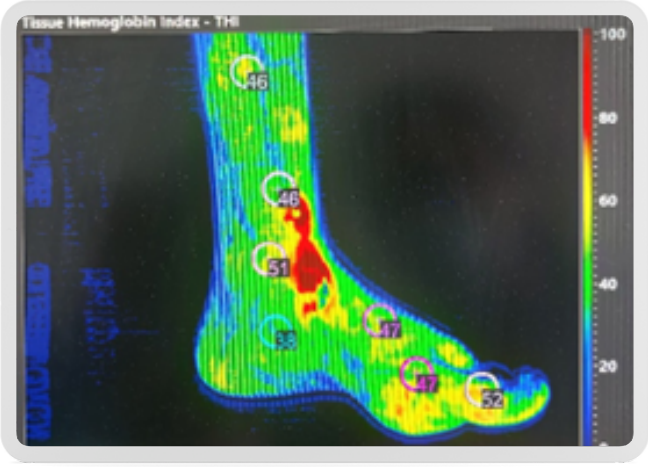

Figure 4:
Tissue Haemoglobin Index - THI 52%

Effect on wound healing

Before (10.3.2023)

1. Upper wound: 2,7 x 1 cm
2. Lower wound: 5,4 x 2,7 cm
SINBAD wound score: 5
Falanga wound score: C
Pain according to VAS: 7

After 20 treatments (28.3.2023)

1. Upper wound completely healed.
2. Lower wound: significantly reduced in size, fully granulated in volume, already in the epithelialisation phase.
Pain according to VAS: 0
The lower wound completely healed 2 months after discharge from hospital.