The Value of Fish Skin Omega3 Matrix (Kerecis™) and NPWT to promote healing of vascular wounds

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Conflict of Interest

None regarding this product

Technology Overview Omega3 Matrix (KERECIS™)

Why Cod Skin?  
(Minimally Processed Skin for Skin Replacement)

Omega-3 fatty acids – Anti-inflammatory effect is mediated by NLRP3 inhibition

- Fish ADG contains omega 3 fatty acids (ω-3FA)
- Recent study by Yan et al demonstrated that Omega 3 fatty acids, through a cascade of events starting with the activation of G protein coupled receptors (GPR 120/40) stimulates the NLRP3 (inflammasome) dependent caspase-1 cleavage that is necessary to activate the pro-inflammatory cytokine interleukin-1β.
- Omega-3 fatty acids have the potential to suppress inflammation by inhibiting the macrophage secretion of the pro-inflammatory cytokine IL-1β.

## Patients treated 2014-2018 (3 centers)

- **n=23** patients with 25 vascular/diabetic wounds
- Partially exposed bone segments
- **Localisation:**
  - Thigh: n=2
  - Distal calf: n=7
  - Foot: n=14
  - Hand: n=2
- **Time to heal:** 9 – 41 weeks
- **# of matrices used:** 3-26

## Spectrum of patients treated 2014-2018 (multicentric)

- Complete healing: 15/25

## Hard to Heal Wound / Forefoot amputation

- a) Initial finding
- b) Debridement
- c) 8 weeks
- d) 33 weeks
- 22 wound matrices (3x7 cm) were used

## Amputation threatened hand

- Emergency necrectomy due to severe steal syndrome
- Wound closure with Omega3 Matrix
- Plastic surgery offered to improve function

## Long-term treatment needed

## Limited data from literature

- n=18
- 40% decrease of wound surface
- p<0.05
- Complete healing: 3/18

Yang CK, Polanco TO, Lantis JC 2nd. Wounds 2016;28(4):112-8
Presternal skin defect after skin tumor resection and secondary skin flap

2 treatments with Omega3 Matrix & Multiple NPWT

Necrotic skin flap
With infection 12/2017

Mesh graft 3/2018

Time vs. Wound Area

b) Polynomial curve showing a 50% reduction after 20% of treatment duration

Wound reduction in %

n=10 Hamburg cases

Summary

• Omega3 wound matrix is an innovative biological decellularized wound dressing derived from cod skin with high Omega3 content
• Omega3 wound matrix is suited for treatment of complicated wounds of the limbs
• Before application effective debridement, adequate tissue perfusion and infection control are necessary
• Weekly dressing changes are sufficient (outpatient treatment possible)