Comparison of the efficacy, safety, the primary and secondary technical success of the endovenous non-thermal, tumescensless mechanochemical ablation of varicose veins with the subjective outcome using different score-systems
Disclosure

I have nothing to declare
MOCA-Study

Background

- The most endovenous interventions for great (GSV) and small saphenous vein (SSV) insufficiency require thermal energy and instillation of tumescence anaesthesia

- MOCA is a tumescentless technique combining endovenous mechanical intimal injury with simultaneous infusion of a liquid sclerosans (polidocanol) to obliterate the veins

- MOCA has scientifically evidenced to be safe for the treatment of great saphenous vein insufficiency

Bishawi M et al. Mechanochemical ablation in patients with chronic venous disease: a prospective multicenter report, phlebology july 2014, vol 29 no.6, 397-400
Objective

- The prospective study aimed to determine the quality of life and regard the development of pain in social sphere of life before and 6 weeks, 6 month, 1 and 2 years after an operative intervention on varicose veins compared to the technical success and concerning the development of secondary varicosis
MOCA-Study

Methods

- prospective study of consecutive patients, treated for GSV and SSV insufficiency with MOCA

- follow-up the improvement of the health-related quality of life using the modified version of the “Tübinger Questionnaire”, TLQ-CVI with 48 items)

- clinical examination using the CEAP-Score and VDS

- Additional using PDI to regard the development of pain and indeed duplex ultrasound before and after intervention, after 6 weeks, 6 month, 1 and 2 years
Patients inclusion criteria

- Gender: female, male
- Age: 18 – 80 years
- Patients with duplex proven venous insufficiency of the GSV or SSV (CVI > C2)
- Great saphenous vein diameter: 5 - 17 mm
- Small saphenous vein diameter: 3 - 10 mm
- Length of GSV or SSV incompetence: > 10 cm
- Unilateral or bilateral GSV/SSV incompetence
- Consent declaration of the patient
Patients exclusion criteria

- pregnancy
- acute thrombophlebitis
- acute deep venous thrombosis
- occluded deep venous system
- allergy or intolerance against Hydroxypolyaethoxydodecanol, Polyethylenglycol-Monododecylether (Polidocanol)
- CVI independent symptoms of the leg, eg. peripheral arterial disease, neuropathy, lymphedema
- known or suspected pulmonalarterial embolism
- coagulation disorder
MOCA-Study

Treatment

- using the ClariVein catheter (Vascular Insights, USA) with Polidocanol under ultrasound guidance
- without tumescence anaesthesia
- without periinterventional antibiotics therapy
- periinterventional low molecular weight heparin
- post intervention compression stockings class II for 24 hours permanent followed by daytime wearing for 14 days
Results

- 67 interventions on 52 patients (21m, 31f)
- 66 GSV und 1 SSV
- 2 year-results:
  - 36 interventions on 24 patients with
  - group 1: 18 – 54 Jahre – 19 patients
  - group 2: 55 – 85 Jahre – 17 patients
  - male: 12, female: 24
  - 8/24 patients with previous Vein-stripping
MOCA-Study

before  after
MOCA-Study

Ultrasound example:
66 years old woman, before MOCA
MOCA-Study

6 weeks after MOCA
MOCA-Study

6 month after MOCA
MOCA-Study

6 month after MOCA
MOCA-Study

1 year after MOCA

2 years after
MOCA-Study

- periinterventional complications:
  - 6/40 vein spasm
  - 1/40 system malfunction

- postinterventional complications:
  - hematoma: 7/40
  - Local phlebitis and pressure pain over the course: 7/40
  - No major- or minor complications
MOCA-Study

Technical success:

- after 1 year: 36/40 (90%) obliteration
  - 1 complete open
  - 3 partial proximal open (10, 20, 30 cm)
  (3 discreet proximal open between 2 - 5 cm)

- after 2 years: 29/36 (81%) obliteration
  (1 patient died, 1 patient move away from Rostock)
  - 2 complete open
  - 5 partial open (2x10 cm, 14 cm (pregnant), 15 and 25 cm proximal)
  (11 discreet proximal open between 2-5 cm)
MOCA-Study

VDS (Venous Disability Score)

- VDS 0
- VDS 1
- VDS 2
- VDS 3
- VDS 4

Before, post, 6w, 6m, 1y, 2y
MOCA-Study

PDI – social activity (mean points)

PDI

before | post | 6 w | 6 m | 1 y | 2 y

0 | 0.5 | 1 | 1.5 | 2 | 2.5 | 3 | 3.5

PDI
MOCA-Study

- Results of QOL using vein insufficiency disease-specific questionnaire (modified version of the “Tübinger Questionnaire”, TLQ-CVI) with 48 items
complaints on the legs (1-11)

total:
- before: 83%
- after 6 weeks: 8%
- after 6 month: 10%
- after 1 year: 5%
- after 2 years: 11%

preinterventional:
- group 1: 81%, group 2: 84%
- after 2 years:
  - group 1: 16%, group 2: 6%

male: 93%, female: 77%
- after 2 years:
  - male: 0%, female: 17%
discomfort because of CVI (12-15)

before: 90%
after 6 weeks: 15%
after 6 months: 5%
after 1 year: 5%
after 2 years: 6%

preinterventional
- group 1: 86%, group 2: 95%
after 2 years:
  - group 1: 5%, group 2: 6%

preinterventional
- male: 100%, female: 85%
after 2 years:
  - male: 0%, female: 8%
improved comfort when standing (16-23)

- Preinterventional
  - group 1: 52%, group 2: 53%
  - after 2 years:
    - group 1: 79%, group 2: 94%

- Preinterventional
  - male: 43%, female: 58%
  - after 2 years:
    - male: 100%, female: 79%

- Total
  - before: 53 %
  - after 6 weeks: 73%
  - after 6 month: 85%
  - after 1 year: 93%
  - after 2 years: 86%
fears and worries (24-29)

before: 78 %
after 6 weeks: 15%
after 6 month: 15%
after 1 year: 8%
after 2 years: 8%

preinterventional
- group 1: 57%, group 2: 100%
after 2 years:
  - group 1: 5%, group 2: 12%

Preinterventional
- male: 57%, female: 88%
after 2 years:
  - male: 0%, female: 13%
self-confidence (30-40)

before: 13 %
after 6 weeks: 85%
after 6 month: 85%
after 1 year: 93%
after 2 years: 97%

preinterventional
- group 1: 5% (beauty?)
- group 2: 21%
after 2 years:
  - group 1: 95%
  - group 2: 88%

preinterventional
- male: 14%
- female 12%
after 2 years:
  - male: 100%
  - female: 88%
sense of well being (41-42)

before: 65 %
after 6 weeks: 88%
after 6 month: 88%
after 1 year: 93%
after 2 years: 97%

preinterventional
- group 1: 71%, group 2: 58%
- after 2 years:
  - group 1: 95%, group 2: 88%

Preinterventional
- male: 64%, female 65%
- after 2 years:
  - male: 100%, female: 88%
global satisfaction (43-48)

before: 15%
after 6 weeks: 83%
after 6 months: 85%
after 1 year: 93%
after 2 years: 97%

preinterventional
- group 1: 10%
- group 2: 26%
- after 2 years:
  - group 1: 95%
  - group 2: 88%

Preinterventional
- male: 0%
- female: 23%
- after 2 years:
  - male: 100%
  - female: 88%
MOCA-Study

Conclusion

- MOCA is a safe treatment option for GSV- and SSV-insufficiency with a high technical success
- no severe adverse events, only minor side effects
- this intervention is able to improve the quality of life and reduce the pain in social sphere of life
- MOCA needs no anesthesia
- short intervention time
but

after 2 years...

- in 15/36 cases (42%) development of secondary varicosis of lateral saphenous branches

  -> CVI is a chronic disease which needs a therapy for the whole life
  
  -> good therapeudic care/ informing reduce fears and worries, increase self-confidence and global-satisfaction
Thank you
Comparison of the efficacy, safety, the primary and secondary technical success of the endovenous non-thermal, tumescensless mechanochemical ablation of varicose veins with the subjective outcome using different score-systems

LINC, 2017

Christine Teichert, MD
University Medicine of Rostock, Dept. of diagnostic and interventional radiology, Germany