Challenges and new treatment options in venous and arterial thrombosis

EKOS®: Standard of Practice for small hospitals

Peripheral arterial occlusions

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Small hospital
Small hospital

- 323 beds
- 170-180 vascular interventions, incl EVAR
- 1 IR on location. (24/7 service with other hospital, 25km)
- 10-15 (semi-)acute peripheral arterial occlusions (PAO)
Small hospital

Where and when to schedule thrombolysis?

- Angio suite ⇔ cardiologist
- Thrombolysis before or after hours
- Next to other business...

- Only ICU
Small hospital

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Thrombolysis=
Time consuming
Optimize strategy

• Start using EKOS

Reduction treatment and ICU time?

• If possible more selective planning
Planning

- Start 4/5 PM
- Check next morning 8AM (no improvement: stop)
- 2nd angio afternoon

- Additional intervention
Technique and protocol

- 6F sheath. Antegrade/retrograde
- Ekos catheter intrathrombus (6-50cm)
- Urokinase 100.000IE/h
- No bolus.
- Low dose heparin i.v.
- Pain medication on ICU
Small hospital: experiences with EKOS

- 2010-2015
- 56 patients (39M, 17F, 66.0y)
- Fontaine 1/2/3.
- Symptoms 11.2 days (1-49 days)
- Occlusion length 23.9 cm (3- >50 cm)
- Iliac femoral popliteal
- (Below-the-knee)
Small hospital: experiences with EKOS

- 80% (45/56): >95% thrombolysis of clot material
- 14% (8/56): 50-95%
- 3% (2/56): 0%
- 1.7% (1/56): ?
Small hospital: experiences with EKOS
EKOS vs non-EKOS

• Treatment time: 17,3h (6-43) vs 41,2h (24-70)

• ICU time: 24,5h (6-46) vs 47h (24-72)
Small hospital: experiences with EKOS: €

Thrombolysis time: 23,9h ↓
IC time: 1 night ↓

Costs of material ↑

Save € 900/patient
Failures and complications

3/56 failures

- fast progressive ischemia.
  underwent embolectomy

! Correct indication. Not wonderdrug
Failures and complications

1 †. F94, after 2 hours left hemisferal infarct
1 Neuropraxia left brachial nerve
1 Sheath luxated

(small) hematomas
Case

- M 62, smoker
- Iliacofem and 2x fem-pop bypass R, iliac stent R, 3x thrombolysis.
- R/Acenocoumarol, clopidogrel
- 3 days cold white R foot
Case
Case

Start
50 cm EKOS
18.30u
Case. After 15h

[Images of medical scans showing the effects after 15 hours of treatment with urokinase.]
Case. BE stent
Conclusion: EKOS for PAO

- Satisfied doctor and patient
- Reduce treatment and ICU-time: costs ↓
- Plan thrombolysis
- Adapt to local situation and schedule
Conclusion: EKOS for PAO

SOP, also for a small hospital.