First experience with percutaneous mechanical thrombectomy (PMT) - learning curve and 18 month follow up

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Disclosure

Speaker name: Ewa Swiecka

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

- I do not have any potential conflict of interest
Introduction

• Percutaneous mechanical thrombectomy devices are gaining popularity for treatment of various arterial and venous pathology.

• These devices need endovascular capabilities but can be performed without general anesthesia and repeated depending on symptom recurrence.
Purpose

The aim of this single center retrospective study was to analyze the short and long term results following PMT of peripheral vessels and central thoracic veins.
Methods

- 50 patients (n=10 Angiojet® and n=40 Rotarex®)
- Treatment between 1/3/2018 and 1/10/2019
- **Group I (n=12)** interventions for dialysis access dysfunction and central thoracic vein lesions
- **Group II (n=38)** interventions in the iliac (n=8) and femoropopliteal regions (n=30)

All patients were treated using a routine institutional protocol
Group I

✓ 7 thoracic vein occlusions that occurred after central stenting or dialysis access dysfunction

✓ 5 occluded dialysis access sites and their concurrent central thoracic vein stenoses

✓ 1 patient had four episodes of thoracic vein occlusion and was treated successfully with PMT at 4-5 month intervals

✓ 3 dialysis access failures that were the result of subclavian vein occlusion

PMT had 100% initial procedural technical success

   Angioplasty and selective stenting was required

After 18 months of follow-up 60% of interventions in Group I were patent
Group II Results

5 restenoses and 4 reocclusions were documented over 18 months in the femoropopliteal region.

3 superficial femoral artery (SFA) restenoses occurred 3 and 6 months after the first PMT.

2 restenoses occurred after 12 months.

2 reocclusions were noted after 3 months and 2 after 12 months.

2 surgical revascularizations (endarterectomy CFA/ with SFA PTA).

7 repeated PMT – re-angioplasty and selective stenting.

After 18 months of follow-up 75% of interventions in Group II were patent.
Complications after treatment

Group II

- 2 access site bleeding complications independent of local or systemic thrombolysis
  - 1 retroperitoneal hemorrhage
  - 1 death after stroke
- 1 above knee amputation (compartment syndrome secondary to thrombolysis)
Case I: Mechanical thrombectomy in central veins

- 58 year old male with a 10-year history of hemodialysis
- admitted to the hospital with dialysis fistula dysfunction and aneurysm of the native brachiocephalic fistula (1 year old fistula)
- morbid obesity (BMI > 50)
Case II: Recanalization of SFA with reocclusions

- 65-year old female
- 12.2.19 percutaneous thrombectomy of SFA, PTA/stenting of SFA, PTA of tibial arteries
- 5.3.19 reocclusion of SFA and tibial arteries
- Repeat PTA of all arteries and stenting of ATA

12.2.2019

5.3.2019
Case II: Recanalization of SFA with reocclusions

- re-occlusion after 2.5 months
- thrombolysis for 24h
- next day angiographic control and PTA without success

above knee amputation!
Conclusions

➢ PMT at our institution was performed safely and was technically successful in patients with lesions of various venous and arterial etiologies

➢ PMT does not preclude the use of other concurrent endovascular procedures or subsequent surgical and endovascular interventions

➢ PMT can be performed on repeated occasions with acceptable procedural morbidity and mortality

➢ Patient selection is important

➢ Use of additional thrombolysis can increase complications
Thank you for your attention
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