Helping patients with venous outflow obstruction get back to living in Madrid

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Disclosure

Speaker name:
Marta Ramirez Ortega

I have the following potential conflicts of interest to report:

☒ Consulting for Cook
☐ 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

DVT is a serious health problem

- Rochester
  - 900000 cases p/year USA
  - 300000 deaths p/year PE
- 20-50% will develop moderate-severe PTS (Prandoni y Kahn)
- Decrease in the last 25 years
- New treatment and diagnostic management:
  - (IVUS, Thrombolysis, PTA+Stent)
Background

✓ Since 2011 I’ve been involved in venous pathology management with >250 procedures.

✓ By now we perform 4-5 endovascular treatment in venous outflow obstruction p/month.
Background

✓ Wallstent® was the “pioneer stent” in this kind of pathology
✓ Now-a-days: Venous dedicated stents: (Zilver Vena®, Sinus Venous®, Veniti-Vici®, Venovo®)
✓ More flexible, more radial force
✓ Still there are concerns about stenting CFV
Diagnostic algoritm

- Chronic DVT
- Thrombophilia (+)
- Edema
- PCS
- Atypical VV

Abdominal US

ANGIOCT

Venography +/- IVUS +/- STENT
Diagnostic algorithm

- Chronic DVT
- Thrombophilia (+)
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- Chronic DVT
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ANGIOCT

Venography+/-IVUS+/-STENT
IVUS-PTS
IVUS-MTS
IVUS-MTS
What to do if you don´t have IVUS

FIRST: DON´T PANIC!!!!!!!
What to do if you don´t have IVUS

- In Spain every Vascular Surgeon is able to perform US.
- Transabdominal US is a convenient tool for the whole process
  - Diagnostic
  - Intraoperative
  - Follow up
- Learning Curve

DON´T PANIC IF YOU DON´T HAVE AN IVUS!!!!!!
What to do if you don’t have IVUS

✓ Diagnostic: DUS CRITERIA:
  ✓ Monophasic CFV WP
  ✓ DVR in multiple segments
  ✓ Post-thrombotic changes (narrowing, fibrosis, residual thrombus)
  ✓ Incidental PVA (>20mm)
  ✓ Direct visualization of iliac vein <5mm

Dr. N. Labropoulos
What to do if you don’t have IVUS

✓ Intraoperative
  ✓ Avoid access complication
  ✓ MT: precise localization of compression point
  ✓ PTS: precise localization of inflow stent landing point
  ✓ Excellent accuracy in stent deployment.
  ✓ Checking final stent patency, diameter and flow.
Stent deployment-MTS
Postdilatation-MTS
Checking-MTS

1,69mm

1,12mm
What to do if you don´t have IVUS

✓ Follow-up
  ✓ Stent diameter: grey scale confirming lack of deformation/compression
  ✓ Stent patency: color flow
  ✓ Spontaneous flow + respiratory phasicity: proximal-within-distal
Our results

✓ Follow-up
  ✓ My personal experience (since 2011): 180 MTS and 87 PTS

✓ January 2014-January 2018 120 patients

✓ 77 MTS: 76 ♂️, 1 ♂️: mean age 41 y.o. (29-67)

✓ 43 PTS: 31 ♂️, 12 ♂️: mean age 52,5 y.o. (21-85)
Our results-PTS

- 18% PE, 34.8% trombophilia (+)
- 95.4% ZV, 2.3% VV, 2.3% WS
- 83% under inguinal ligament
- 1.8 stents pp (1-4)
- Mean preprocedure VCSS was 10.1 (5-26)
- Mean preprocedure Villalta Score was 12(7-28)
Our results-PTS

- Mean length of stay 24 hrs
- Anticoagulation was given in all cases except 2 (AAS) for at least 6 months
- FU at 1 week, 1, 3, 6 and 12 months: DUS and then yearly: DUS + XRay

<table>
<thead>
<tr>
<th>Results:</th>
<th>Complications:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Clinical improvement 96.5%</td>
<td>- Mortality/PE events 0%</td>
</tr>
<tr>
<td>- Mean postintervention VCSS 4.1 (1-21)</td>
<td>- Contralateral limb thrombosis 2.3% (1)</td>
</tr>
<tr>
<td>- Mean postintervention Villalta Score 3.9 (1-20)</td>
<td>- Stent fracture 4.6% (2)</td>
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<td>- 72% of C3 improvement to C2, C1.</td>
<td>- Reestenosis 2.3% (1)</td>
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<td>- 83% of ulcer healing</td>
<td>- No Bleeding</td>
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<tr>
<td>- Primary stent patency 90%, 93%</td>
<td>- No Stent migration</td>
</tr>
<tr>
<td>Assisted primary patency and 95.3% secondary patency</td>
<td>- No stent disconnection</td>
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</table>
Our results-PTS

✓ FU at 1 week, 1,3,6 and 12 months: DUS and then yearly: DUS + XRay
Our results-PTS

✓ FU at 1 week, 1,3,6 and 12 months, yearly: DUS + XRay
Our results - MTS

- 3.8% trombophilia (+)
- 98.7% ZV, 1.3% VV.
- 1.0 stents pp
- Mean preprocedure VCSS was 7(1-12)
- C1-C2: PCS and Atypical VV
Our results-MTS

- Mean length of stay 24 hrs
- Antiplatelet therapy was given in all cases (AAS)
- FU at 1 week, 1, 3, 6 and 12 months: DUS; yearly: DUS + XRay

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<td>- Clinical improvement 97.4%</td>
<td>- Mortality/PE events 0%</td>
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<td>- Mean postintervention VCSS 2.1(1-8)</td>
<td>- No Contralateral limb thrombosis</td>
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<td>- 98.1 % of C3 improvement to C2, C1.</td>
<td>- No Stent fracture</td>
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<td>- Primary stent patency 100%</td>
<td>- 1.3% Reestenosis (1)</td>
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Our global results

✓ In MTS and PTS Endovascular treatment is an effective and safety option with excellents results, long-term high rate patency, low morbi/mortality and low rate of reestenosis.
✓ But more important than the VCSS, Villalta Score, VAS pain scale or CEAP clasification improvement is...... QUALITY OF LIFE
✓ IT´S NEVER TOO LATE..... EVEN IF THERE IS A 42 Y.O. PTS
**Case**

- Left iliac DVT in p.o.
- FU in a Vascular Office since 42 years ago: horseradish and flavonoids: not good result
- 15 years ago: sclerotherapy: not good result
- Severe pain, cramps, heaviness, pruritus
- Left leg edema, moderate skin induration, hyperpigmentation
- Villalta 20, VCSS 12

Then……….
Case

✓ US:
- Patency IVC, LCIV
- External iliac vein occlusion, CFV occlusion
- Femoral vein occlusion

✓ VenoCT:
- Patency IVC, LCIV
- External iliac vein occlusion, CFV occlusion
- Femoral vein occlusion
Case

✓ US guided pop Access
✓ .035” stiff GW + DAV cath
Case

✓ Predilatation:
  - 8Fx45cm long sheath
  - StiffGW 0.035”
  - 4,6 & 10 mm standard balloon
  - 12 mm High pressure balloon
Case

✓ Stenting:
- 1st: Proximal: ZV 14x140 IVC, LCIV,EIV
- 2nd: Distal: ZV 14x100 EIV, CFV
Our global results
Our global results

✓ "Now I can do same things tan before!!!!!, Thanks!!!"

✓ "I thought that I was not so badly, now I realize that it was not true!!!"

✓ "I start running!, I´ve finished my first 5k run!"

✓ "You´ve changed my life doc!"

✓ "Why have I been like this for 42 years!? If I had never read the newspaper, I would still be thinking that all my symptoms were normal. Thanks so much!!! Now I don´t feel my leg all the time."

Patients real quality of life
Thanks so much!

Hope to see you in Madrid!

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