Venous aneurysms
“The hidden danger”

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Disclosure

Speaker name:
Mr. Mohammed Elkassaby, MD, MRCSi

I do not have any potential conflict of interest
History

• The *first* description by Osler in 1915 during autopsy.

• Dahl et al* made the first report of PE due to popliteal VA in 1976.

Venous aneurysms

• Defined as a *solitary* area of venous dilation that *communicates* with a main venous structure by a single channel.

• *Must* have *no* association with an *arteriovenous* communication or a *pseudoaneurysm*.

• *Should not* be contained within a segment of *varicose* vein.

Distribution

• Lower extremities are the most frequent (specially the *popliteal vein*)
• Head and neck.
• Abdominal.
• Thoracic.
• Intracranial.
Etiology

• 1st: Congenital

• 2nd: To trauma, inflammation, or degenerative changes.
Morphology

• Saccular or Fusiform.

• Important distinction for *hemodynamic* considerations and choice of surgical treatment.
Clinical presentation

• Asymptomatic
• Radiologic finding
• Cosmetic
• Subcutaneous mass
• Mediastinal mass
• CVI
• PE
Complications

• Usually benign
• Potential for serious complications
• PE
• Thrombosis
• Rupture with bleeding (very rare)
Management

- Controversial indications.
- Tangential excision and aneurysmorrhaphy
- Excision with interposition graft
- Ligation
- Sclerotherapy
- Endo-venous ablation
- Coiling and stenting
Case series

• Mansoura University Hospital (MUH) is a tertiary referral center with a catchment area of over 15 millions’ population.

• Retrospective analysis from Jan, 2011 to Jan, 2016.
Inclusion criteria

• localized venous dilatation more than 3 times the normal size of the vein.

• Symptomatic and asymptomatic
Exclusion criteria

• **Diffuse** venous dilatation
• Presence of *arterial* connection
• High *arterial flow* within the venous aneurysm, detected by Duplex US.
• Presence of large *varicosities* near the aneurysmal sac
Results

- **13 VAs in 13 patients.**
- All cases underwent *surgical* correction.
- **6 Males (46.2%), and 7 Females (53.8%).**
- Mean *age* was 21.6 years (Range 7-42).
- All underwent *open surgical* treatment, either *aneurysmorrhaphy* or *ligation*. 
### Presenting Symptoms and Anatomical Sites

<table>
<thead>
<tr>
<th>Cases</th>
<th>Presentation</th>
<th>Anatomical site</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Swelling</td>
<td>AJV (Neck)</td>
</tr>
<tr>
<td>2</td>
<td>Swelling</td>
<td>IJV (Neck)</td>
</tr>
<tr>
<td>3</td>
<td>Swelling, pain, tingling, thrombosis</td>
<td>SSV (Lower limb)</td>
</tr>
<tr>
<td>4</td>
<td>Swelling, pain, tingling</td>
<td>SSV (Lower limb)</td>
</tr>
<tr>
<td>5</td>
<td>Swelling, thrombosis</td>
<td>IJV (Neck)</td>
</tr>
<tr>
<td>6</td>
<td>Swelling</td>
<td>CV (Upper limb)</td>
</tr>
<tr>
<td>7</td>
<td>Swelling, Pain, leg edema</td>
<td>GSV (Lower limb)</td>
</tr>
<tr>
<td>8</td>
<td>Swelling</td>
<td>IJV (Neck)</td>
</tr>
<tr>
<td>9</td>
<td>Swelling</td>
<td>EJV (Neck)</td>
</tr>
<tr>
<td>10</td>
<td>Swelling</td>
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<tr>
<td>11</td>
<td>Swelling</td>
<td>IJV (Neck)</td>
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<tr>
<td>12</td>
<td>Swelling</td>
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</tr>
<tr>
<td>13</td>
<td>swelling</td>
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</tr>
</tbody>
</table>

AJV = Anterior Jugular Vein, IJV = Internal Jugular Vein, EJV = External Jugular Vein, GSV = Great Saphenous Vein, SSV = Short Saphenous Vein, CV = Cephalic Vein
Aneurysm morphology

- 8 *saccular* (61.5 %) and 5 *fusiform* (38.5%)

- Aneurysm size ranged from (2.8 - 6.4 cm) with a mean diameter of (4.16 cm)
Surgical management

• Surgery was done to *all* cases (no conservative treatment and no endovascular procedures).

• *Tangential excision* with lateral suturing of venous wall in *6 cases*.

• *Ligation* and excision in *7 cases*.

• No excision with interposition venous graft.
## Operative details and complications

<table>
<thead>
<tr>
<th>Cases</th>
<th>Aneurysm size in Cm</th>
<th>Aneurysm morphology</th>
<th>Surgical Management</th>
<th>Postoperative complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.2</td>
<td>Fusiform</td>
<td>Ligation+excision</td>
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<tr>
<td>2</td>
<td>4.5</td>
<td>Saccular</td>
<td>Tangential excision</td>
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<tr>
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<td>6.1</td>
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<tr>
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<td>Wound infection</td>
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<td>6.4</td>
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IJV aneurysm
CTV of IJV aneurysm
CTV of IJV aneurysm
IJV aneurysm
IJV aneurysm
Tangential excision of IJV aneurysm
Excision of thrombosed IJV aneurysm
AJV aneurysm excision
SSV aneurysm presenting with swelling at the back of leg
Thrombosed V aneurysm on the course of SSV
Venous aneurysm of SSV
Duplex shows V aneurysm arising from SSV
Tangential excision of SSV aneurysm
Upper limb venous aneurysm
Complications and follow-up

- 1 Wound *infection*
- 1 *Hematoma*, managed conservatively
- Follow up ranged from (6-55 months)
- 2 cases were *lost* follow up
- No recurrence was noticed during follow up period
- No *PE* recorded
Conclusion

- *Rare* vascular disorder, usually *underestimated* or overlooked.
- Has the potential for *serious* complications.
- More *awareness* about VA is needed.
- *Surgical* intervention is safe and effective.
Thanks
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