CAROTID WEBS CAN CAUSE STROKES: HOW SHOULD THEY BE DIAGNOSED AND TREATED: SHOULD THEY BE TREATED IF ASYMPTOMATIC

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Disclosures

- None related
- Cook, Inc: Consulting, Research
- Medtronic (Aptus Endosystems): Research
- Bolton Medical: Research

Recurrent Transient Ischemic Attacks and Stroke in Association With an Internal Carotid Artery Web

Joel C. Morgenlander, MD, and Larry B. Golstein, MD

- Case report
- 34 yo woman
- Recurrent TIAs
- AC x 6 weeks
- CEA
- Web with 270 degree circumference

Case

- 43-year-old woman
- No significant past medical history
- Presents with
  - left-sided weakness
  - left facial droop
  - left facial decreased sensation
- Echo negative

Case

MCA infarct

Case

Filling defect
Follow up

- Neurologic status improved
- Discharged to acute rehabilitation
- Minimal residual left sided weakness
- Near complete resolution

Carotid Webs and Recurrent Ischemic Strokes in the Era of CT Angiography

- Case series (n=12)
- 7 prospectively identified with ischemic stroke
- Mean age 50 (41-55); 5/7 female
- 5/7 were recurrent ipsilateral strokes
- 4/5 had CEA, no recurrence at < 1 year
- CEA specimens had marked fibroelastic thickening of the intima (no FMD seen in other vascular beds)
- Estimated prevalence in a hospital based series of patients with stroke 1.2%
- Less in general population

Carotid Webs

- Rare arteriopathy
- Also called “pseudovalvular fold”
- Smooth or corrugated mass projecting into the arterial lumen
- A small, shelf-like linear filling defect arising posteriorly from the proximal ICA and projecting superiorly into the lumen
Carotid Webs

- Attributed to developmental anomaly of the brachiocephalic system
- Histopathology they lack
  - atheromatous changes
  - inflammation of tunica intima
- May
  - be associated with Fibromuscular Dysplasia
  - be considered an atypical form of intimal fibroplasia
  - arise from dysplasia in the media
- Considerable stroke risk based on laminar flow disruption and irregular shear profile

Pathogenesis

http://dx.doi.org/10.3174/ajnr.A4431, Am J Neuroradiol 2015

Diagnosis

- Duplex
- CTA
- MRA
- Angiography

Management

- Surgical management
  - preferred treatment
  - traditional CEA
- Medical management
  - anti-platelet therapy
  - Anticoagulation

CAS

- 2 cases acute stroke treated with CAS (3 & 10 days)
- Iatrogenic dissection in one
- Symptoms resolved in both
- Stents patent at 3 month & 1 year follow up

Asymptomatic web

- 76 yo man
- Incomplete web
- Asymptomatic
- Significant comorbidities
- No intervention

Elmokadem, ECR 2016, DOI: 10.1594/ecr2016/C-0140

J Radiol Case Rep. 2015 May; 9(5): 1–6
Conclusions I

• Overall prevalence is low
• Associated with FMD – intimal fibroplasia
• Important cause of ischemic stroke
• Associated with recurrence, even in setting of adequate medical therapy

Conclusions II

• Need to stratify risks based on lesion characteristics
  – Degree of stenosis
  – % circumference
  – Morphology of flap (contour, stiffness, etc)
• Optimal management not defined
• Given above, CEA seems prudent in young, medically fit patients
• Role of endovascular approaches undetermined