How to deal with carotid dissections?

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1. When to suspect?

- Typical ischemic stroke
  - Old
  - Multiple co-morbidities
  - Typical neurological deficits corresponding to territories

- Dissection
  - Young
  - Clue in history
    - Oral contraceptives
    - Neck manipulation (gym or other sport activities)
    - Trauma
    - Connective tissue disorders
      - Marfan's syndrome
      - FMD
      - Osteogenesis imperfect
  - Unusual symptoms
    - Headache
    - Neck pain
    - Cranial nerve palsies

2. Which imaging modality?

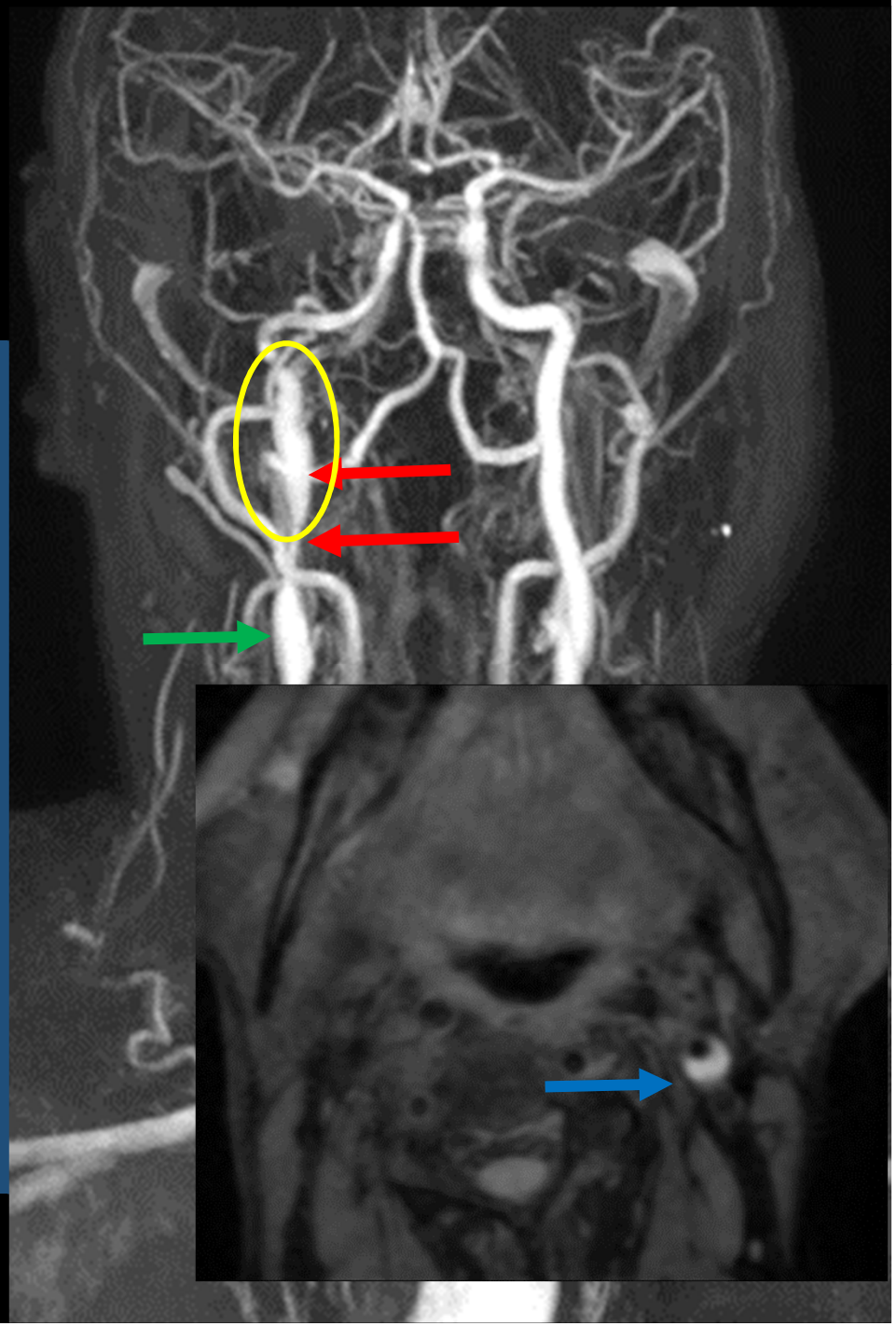
- NCCT
  - First line
  - Identify infarct – age, territory, volume
  - Rule out hemorrhage
- CTA
  - Confirm dissection
  - Extent of dissection
  - Distal vessels
  - Collaterals

2. Which imaging modality?

- MR
  - Problem solving tool
  - Dissection characterization – acute thrombus
  - Perfusion
- DSA
  - Possibility of treatment in the same sitting

3. Imaging signs

- Abnormal contour – vessel wall abnormalities
- Focal narrowing with a distal dilatation
- Dissecting aneurysm
- Bulb is spared
- Narrowed eccentric lumen with crescent shaped mural thrombus
- Intimal flap
- String sign



4. When to intervene and what are the options?

- Conservative management – First line

Long-term outcomes of internal carotid artery dissection

Atul S. Rao, MD, Michel S. Makaroun, MD, Luke K. Marone, MD, Jae S. Cho, MD, Robert Rhee, MD, and Rabih A. Chaer, MD, *Pittsburgh, Pa*

- Angioplasty only
- Stent placement

Therapies	Indications	Advantages	Disadvantages
Antithrombotics	Conventional therapy in the acute and chronic phase	Oral application and good compliance	Void for part of patients
Thrombolysis	For patients within 4.5 h of onset	Reopen an occluded artery quickly	Maybe leading to intramural bleeding
Endovascular therapy	For patients who have definite recurrent cerebral ischemic events despite medical therapy	Higher rates of revascularization	Potential risks, including peripheral thromboembolism, arterial spasm, and stent thrombosis

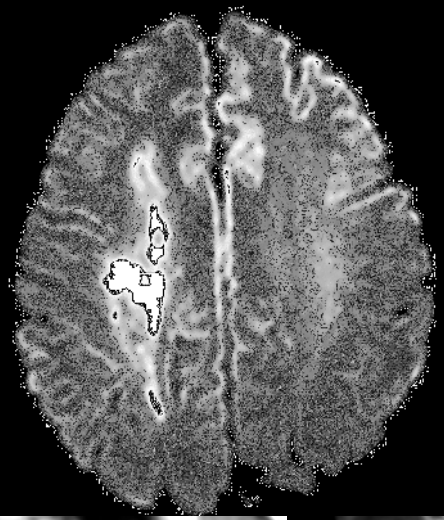
Companion case 1

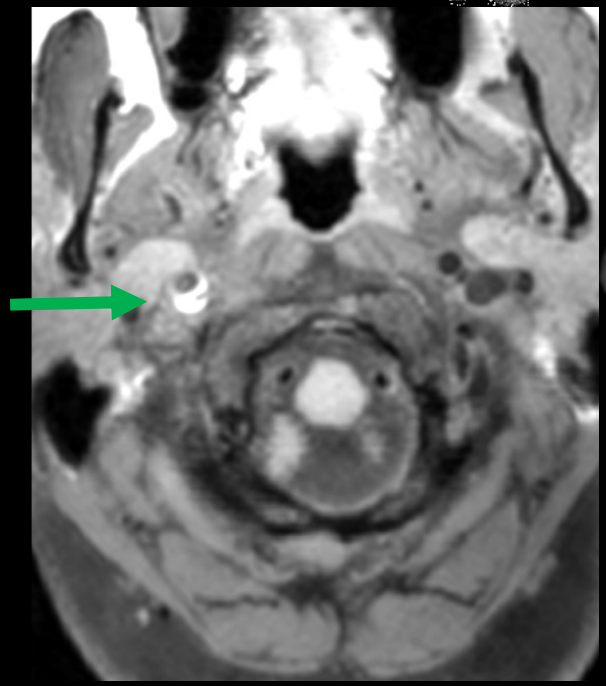
Crossed with wire – Stent placement

Post stent opening – Non filling of ICA

Post angioplasty – Normal filling of ICA

Companion case 2





Diagnostic DSA

Wall stent graft

Control angiogram

Follow up DSA after 1 year

Only on aspirin 75mg BD

5. Medical management

Mechanism of Ischemic Infarct in Spontaneous Carotid Dissection

D.H. Benninger, MD; D. Georgiadis, MD; C. Kremer, MD; A. Studer, MD; K. Nedeltchev, MD; R.W. Baumgartner, MD

Most common mechanism is thromboembolism than hemodynamic changes

Medical management is essential

- Antiplatelets
  - Single or dual
- Anticoagulants
  - LMWH in acute setting
  - Can be changed to warfarin later

Antiplatelet treatment compared with anticoagulation treatment for cervical artery dissection (CADISS): a randomised trial

The CADISS trial investigators†

No difference between antiplatelet or anticoagulant therapy in preventing further stroke

Physician's choice

Thank you !!!