DISCLOSURES

Employee – Boston Scientific
HEMOSTASIS

- Avoid RAO; Get the sheath out
- Radial artery is easy to manage
- Place patient in comfortable position
- Manual compression
- Pressure dressing
- Pneumatic pillow
PATENT HEMOSTASIS

- **PROPHET study.** Catheterization and Cardiovascular Interventions 72:335–340 (2008)

Compress the radial artery with enough pressure to obtain hemostasis at access site but still allow for blood flow through the artery.

Can be employed with any type of hemostasis being used

Monitor by Reverse Barbeau (compress ulnar artery with hemostatic device on radial artery and ensure radial flow)

Document
MANUAL COMPRESSION

- Least expensive
- You have your finger on the pulse
- Wrist too small or too big
- Get to interact with patient
- Shortest compression time
PRESSURE DRESSING

- Inexpensive

- Difficult to regulate pressure applied

- Difficult to visualize the access site
PNEUMATIC PILLOW

- Allows for staff to continue working
- Have to be sized and placed correctly
- Have to be monitored
- Left in place for hours
- Can move causing hematoma
COMPLICATIONS

- Best if avoided
- Much better data
- Smaller and more specialized tools
- Better operators and support
<1% incidence

Usually caused by guidewire or too aggressive movement of guide catheter.

Early recognition is important to outcomes

Usually self limiting with forearm compression.

Some operators advance guide catheter across perforation to tamponade

May need to tamponade with balloon
Suggested Protocol for Management of Radial Artery Perforation with Blood Pressure Cuff

- Apply pressure cuff at site of induration
- Inflate cuff 215 mmHg below systolic pressure for 15 minutes
- Monitor arterial flow with oximetry and adjust cuff pressure to obtain signal
- Manage pain and hypertension
- Consider stopping anticoagulants
- Consider protamine, if heparin in use
- If persistence of swelling, pain or induration after two inflations of 15 minutes, consider urgent surgical consultation

HEMATOMA

- The incidence is 2-15%
- Unsightly but usually benign
- Usually due to ineffective compression or compression device failure or wire perforation
- Effective compression of the forearm can be achieved by using ACE wrap or blood pressure cuff

Crit Care 6(3): 199-204, 2002
COMPARTMENT SYNDROME

- Very rare, 0.1-0.4%
- Caused by perforation
- Five P's
  - Pain
  - Paresthesia
  - Paralysis
  - Pallor
  - Pulselessness
- Requires fasciotomy

J. Int. Cardiol. 21(5):380-384, 2008
FASCIOTOMY
RADIAL ARTERY OCCLUSION

- Typically seen without symptoms

- The incidence is 5% up to 20%?

- Risk factors
  - large sheath size
  - occlusive hemostasis
  - lack of anticoagulation.
RADIAL ARTERIOVENOUS FISTULA

- Causes pain and swelling
- Palpable thrill, bruit

Treatment
- Prolonged manual compression
- Covered stent
- Surgery

PSEUDOANEURYSM

- Incidence 0.1%
- Pain and swelling at the site
- Diagnosis by color Doppler ultrasound
- Treatment
  - Ultrasound-guided compression
  - Thrombin injection
  - Surgery