Do Vascular Closure Devices Accelerate Femoral Artery Atherosclerosis?

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Conflict of Interest
None with respect to this presentation

Percutaneous Interventions
Manual compression - “gold standard” for hemostasis

Limited by: prolonged bed rest, patient discomfort and providers time demands

Vascular Closure Devices
Do they accelerate common femoral artery atherosclerosis?

76, Female, L leg claudication

OCTOBER 6, 2014
Diseased CFA but without obvious hemodynamically significant stenosis

Claudication symptoms resolved

76, Female, L leg claudication

OCTOBER 6, 2014
Diseased CFA but without obvious hemodynamically significant stenosis
76, Female, R leg claudication

76, Female, R leg claudication
Claudication symptoms resolved

76, Female, recurrent B leg claudication, equal severity
Duplex: L SFA stent occlusion
R SFA critical stenosis above stent
Decided to begin with R leg

CASE 16
FEBRUARY 19, 2015
76, Female, bilateral leg claudication, equal severity

CASE 17
JUNE 12, 2015
Endarterectomy findings
Vascular Closure Devices

FROM JANUARY 2013 – CURRENTLY (3 years)

N = 25 CFAs (17 patients)
- OPEN OR ENDOVASCULAR CFA INTERVENTIONS
- SINGLE PRACTITIONER
- SURGICAL or PERCUTANEOUS CLOSURE DEVICE COMPLICATIONS
- CFA ATHEROSCLEROTIC DISEASE

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INDICATION
CRITICAL LIMB ISCHEMIA = 84% (21/25)

29% Likely
50% potentially

All without exception with identical macroscopic intraoperative findings =
No misdeployment (VCD in adventitia)
Common femoral artery deployment site
Typical atherosclerotic plaque found during surgery

Endovascular intervention in the right lower extremity - 2013
50, Female, asymptomatic

CTA after intervention – patent SFA

NOVEMBER 8, 2015

51, Female, L leg rest pain

NOVEMBER 8, 2015

CASE

51, Female, L leg rest pain

51, Female, L leg rest pain

“benign fibroadipose tissue with dense fibrosis”

PATHOLOGY

NOVEMBER 8, 2015

On the other hand….”healthier CFAs"

Vascular Closure Devices

LEFT LEG INTERVENTION

OCTOBER 9, 2014

L groin double Proglide 10 and 2 o’clock

R groin single Proglide 12 o’clock

Vascular Closure Devices - LEFT

On the other hand…..AAAs

NOVEMBER 12, 2015 = 22 days after

L groin double Proglide 10 and 2 o’clock

R groin single Proglide 12 o’clock

Vascular Closure Devices

On the other hand…..AAAs

NOVEMBER 12, 2015 = 13 months after

AAAs
Traditional teaching and common sense call for avoidance of VCDs in severely calcified CFAs. However, this recommendation is to avoid VCD failure = BLEEDING / PSEUDOANEURYSMS / RETROPERITONEAL HEMATOMA. To my knowledge, NOT to avoid acceleration of an occlusive process.

Several Questions Remain:

Can the mere puncture of a diseased CFA could unchained aggressive inflammation?

Does the aggressive inflammation have to do with the patient’s genetics / risk factors (i.e. smoking)?

Does the problem have to do with a local mechanical issue (i.e. flap or plaque disruption/hemorrhage upon access)?

Therefore:

Do they accelerate femoral artery atherosclerosis?

A question in my opinion, quite provoking, but unanswered at this time.

Thank You For Your Attention