Where does the clot go?

Back table or the pulmonary circulation – an argument for commonsense

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A. Pulmonary emboli are bad
B. Pulmonary emboli are good
C. Who cares, I am tired from lunch
D. I hate these type of questions

76% 18% 3% 3%

DISCLOSURES

- Speaker and consultant to Cryolife (products include the HeRO graft)
- Speaker for Gore (products included dialysis access grafts and stents)

Neither of these will be discussed in this presentation

UCSF Radiology - Interventional Radiology
Embolization Therapy for Colon Cancer

UCSF Radiologist Dr Robert Kerlan describes how interventional radiology is utilized in embolization therapy to treat colon cancer.

“The family would like to thank Dr. Bowman, Reno Oncology, Dr. Kerlan, UCSF Medical Center, Interventional Radiology Dept. for making Charles’ wish come true - seeing his son Charles turn 18 and graduate. Many thanks to the nurses and staff in the LSU at UCSF.”
Clinical Professor
Department of Radiology
President-Elect, UCSF Medical Staff

Dr. Robert Kerlan is the Chief of Interventional Radiology. He is particularly interested in the management of liver disease, including biliary disease, portal hypertension and hepatic malignancy. In his research, he is working to develop new procedures to diagnose and treat patients with problems related to living donor organ transplants. His UCSF campus-wide service memberships include the Surgical Case and Hospital Mortality Review Committee (SCHMRC), Allocation Committee, Patient Safety Committee, Clinical Vascular Access Committee and Executive Medical Board (EMB).

Dr. Kerlan joined the UCSF Medical Staff in 1993 from La Jolla Radiology Medical Group, where he was a partner. Prior to that he was a staff radiologist at Scripps Memorial Hospital in Encinitas, CA, and Chief of Interventional Radiology at Scripps Memorial Hospital in La Jolla, CA.

Education
- USC, School of Medicine, MD, 1977
- UCLA, School of Medicine, Internship, Internal Medicine, 1978
- UCSF, School of Medicine, Residency, Radiology, 1981

Can you really trust him?

Assumptions

- Clotted accesses are full of thrombus and an arterial plug made of platelet aggregate
- Embolism to the lungs is bad, large or small and chronic small embolism may lead to pulmonary hypertension
- Declotting is often done percutaneously for convenience
Clearly there can be a problem


S/P Percutaneous Thrombectomy

Some interesting numbers

• *Arterial emboli can occur in up to 6.3% of cases during percutaneous thrombolysis, although symptomatic cases are rare [1]*

• "Clinically significant pulmonary embolism during percutaneous thrombectomy procedures is an *expected complication*, yet it is rare, and the true incidence of PE is unknown" [2]


Are there any studies examining pulmonary embolism after percutaneous thrombectomy?

Yes, Indeed


Interesting Conclusions

• The radiographic incidence of pulmonary embolism ranged from 0–59% of cases.
• Most did not experience any symptoms
• Of the four studies, only a few symptomatic PEs were identified but noted that "silent" pulmonary emboli occurred frequently

Silent pulmonary emboli?


Cases (ie those with previous declot) were slightly more likely to have pulmonary hypertension than group 2 controls (OR = 1.5), although this failed to reach statistical significance (p = 0.14).
CONCLUSION: Endovascular and surgical intervention for thrombosed dialysis prosthetic graft fistulae results in comparable early success and long-term primary and secondary patency rates. Surgery yields a better outcome for autogenous arteriovenous fistulae, in particular in the long-term.
Why to declot surgically?

- At present, you can have the best of both worlds
  - #1 Clot does not go to lungs or arterial bed
  - #2 You can angioplasty or stent or surgically revise the inflow or outflow
  - #3 If it is a fistula, you have better short and particularly long term outcomes, leading to less morbidity and $$$$$

The Choice is Clear

Surgery WINS!!