

Imaging Sciences Interesting Cases

CASE 519

Benita Tamrazi, MD

CLINICAL PRESENTATION: Patient is a 68-year-old male status post femoral artery catheterization with right groin hematoma.

IMAGING FINDINGS: Sonographic images demonstrated connecting passage way between the femoral artery and vein with loss of normal femoral artery triphasic waveform.

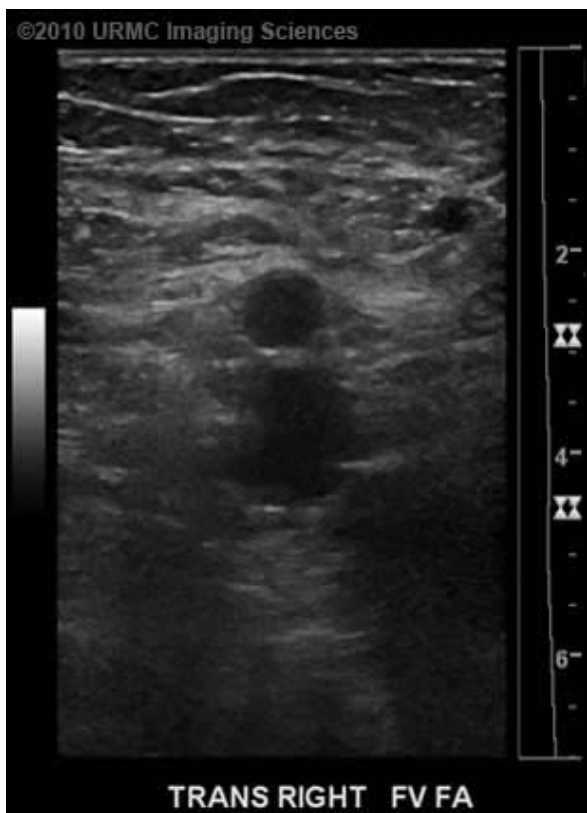


Figure 1: Grayscale image demonstrating right femoral artery and vein.



Figure 2: Color Doppler sonographic image demonstrating connecting passage between the femoral artery and vein.



Figure 3: Doppler spectral waveform demonstrating loss of triphasic waveform of the femoral artery secondary to arteriovenous fistula.

DIAGNOSIS: Arteriovenous fistula (AVF)

DISCUSSION: Arteriovenous fistula (AVF) is an abnormal connection between an artery and a vein. Some AVFs are congenital, but the majority are acquired either surgically or secondary to trauma and erosion of an arterial aneurysm. AVFs are often surgically created for chronic renal failure patients and are used for long term hemodialysis. They can also be a result of femoral artery catheterization. In these cases, they are often associated with puncture site of the artery below the femoral head. Treatment of AVF includes medical management and surgical repair, often depending on whether complicating factors exist such as an enlarging hematoma.

REFERENCES:

1. Altin RS, Flicker S, Naidech HJ. Pseudoaneurysm and arteriovenous fistula after femoral artery catheterization: association with low femoral punctures. *AJR Am J Roentgenol.* 1989 Mar;152(3):629-31. PMID: 2783816 [PubMed]