

Iliopsoas Muscle Pseudoaneurysm following Impella supported Left Main PCI in Patient with Cardiogenic Shock

Haris Sheikh MD, Nyein Chan Swe MD, Gagandeep Singh MD, FACC, Aditya Mangla DO, FSCAI
Zoran Lasic MD, FACC

History

A 72 y/o man with HTN, ESRD on hemodialysis and known extensive CAD with decreased LVEF presented to ER with severe left-sided chest pain and palpitations that started during dialysis.

In the ED, he was found to have atrial fibrillation with rapid ventricular response, evidence of NSTEMI (peak Troponin I of 11.8 ng/ml) and evidence of cardiogenic shock (BP 84/54 mm Hg while on dopamine infusion). The patient was emergently taken to the catheterization laboratory.

Angiography

Right and left heart catheterization revealed elevated pulmonary capillary wedge pressure (20 mmHg) and 85% left main stenosis at the site of prior stent as well as occluded circumflex artery, diffuse 90% distal LAD stenosis and 60% stenosis at RPDA. His LVEF was 45% with antero-apical and mid-inferior hypokinesis.

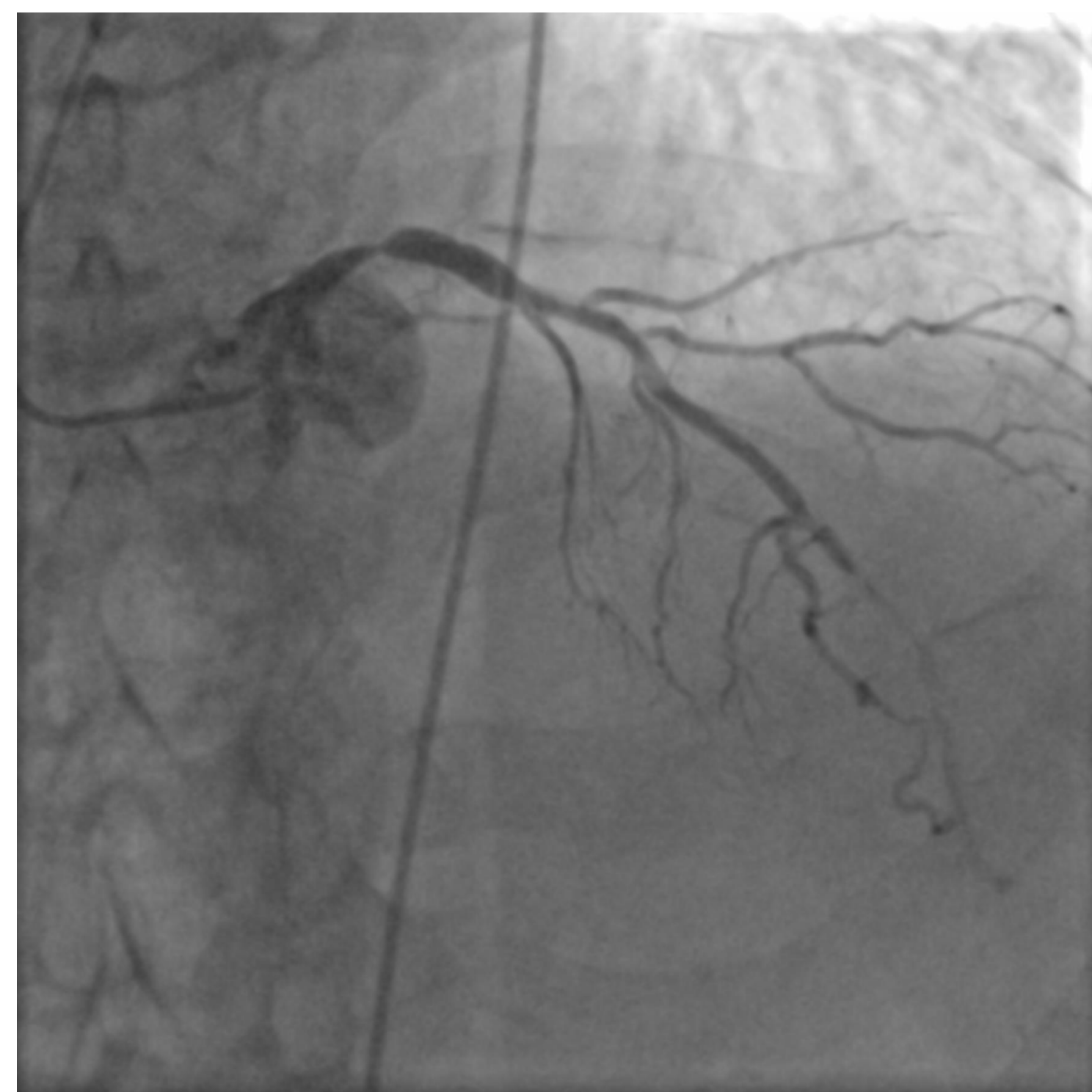


Image 1: Left main and distal LAD stenosis.

Procedure

The patient had an ultrasound and fluoroscopy-guided bilateral femoral artery access with micro-puncture technique. Two Perclose devices were deployed in orthogonal fashion.

Impella was positioned in left ventricle and patient underwent successful IVUS-guided angioplasty of left main artery using Resolute Onyx 5.0-12 DES and PTCA only of distal LAD (2.0-15 balloon) because of diffuse disease in small size vessel. Impella was removed at the end of the procedure with complete hemostasis achieved.

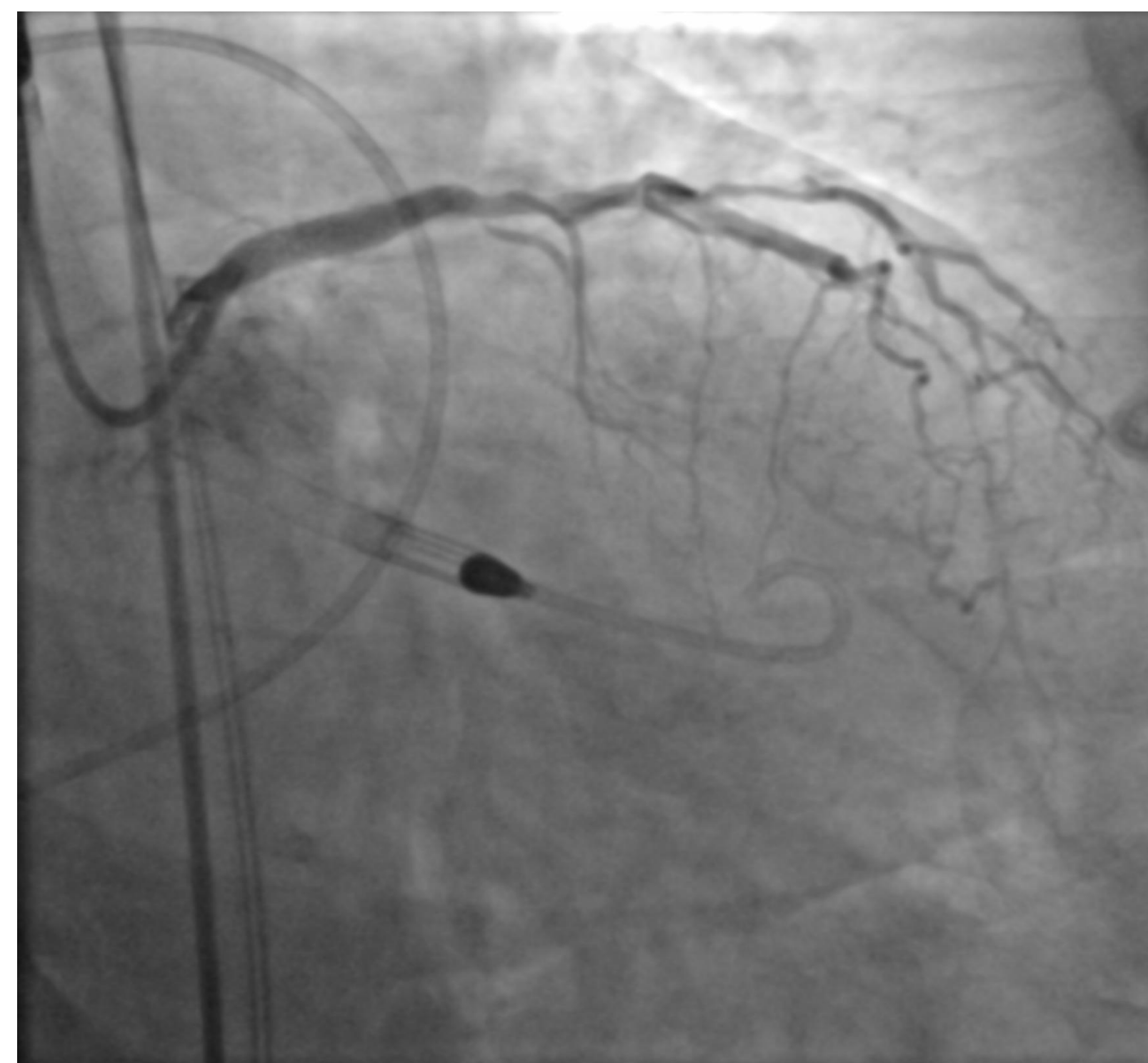


Image 2: Left main and distal LAD post PCI.

On the following day, hemoglobin decreased by 2 g/dl with tenderness in right groin area. The CT abdomen and pelvis revealed focal high density within the right iliopsoas muscle measuring 1.4 x 1.6 x 1.4 cm as well as hemorrhage along the psoas and iliopsoas muscle.



Image 3: 1.4 x 1.6 x 1.4 cm pseudoaneurysm within iliopsoas muscle (red arrow).

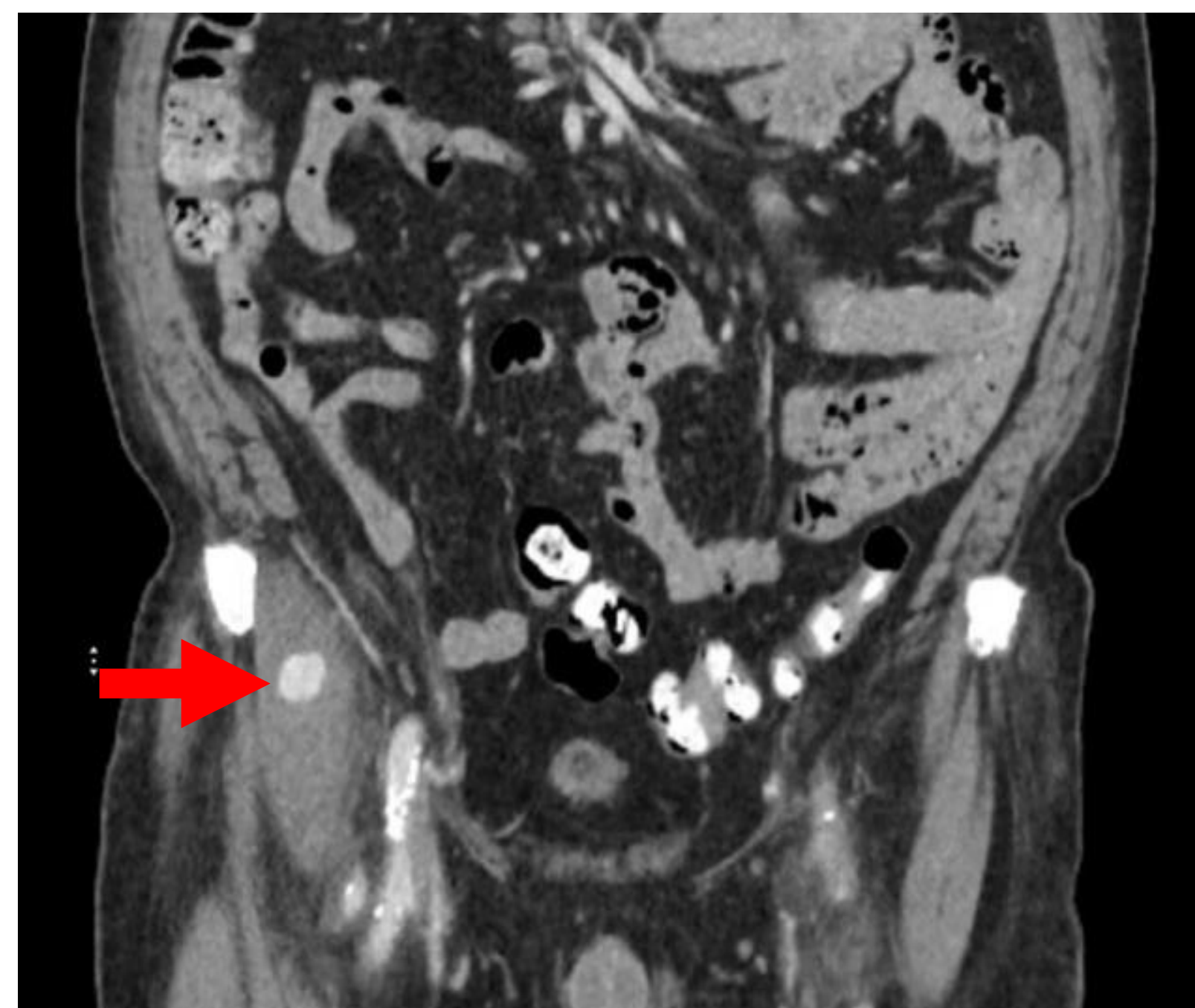


Image 4: Pseudoaneurysm (red arrow) and hemorrhage along the right psoas and iliopsoas muscles.

Management of Pseudoaneurysm

The patient underwent ultrasound-guided thrombin injection because of persistent right groin tenderness.

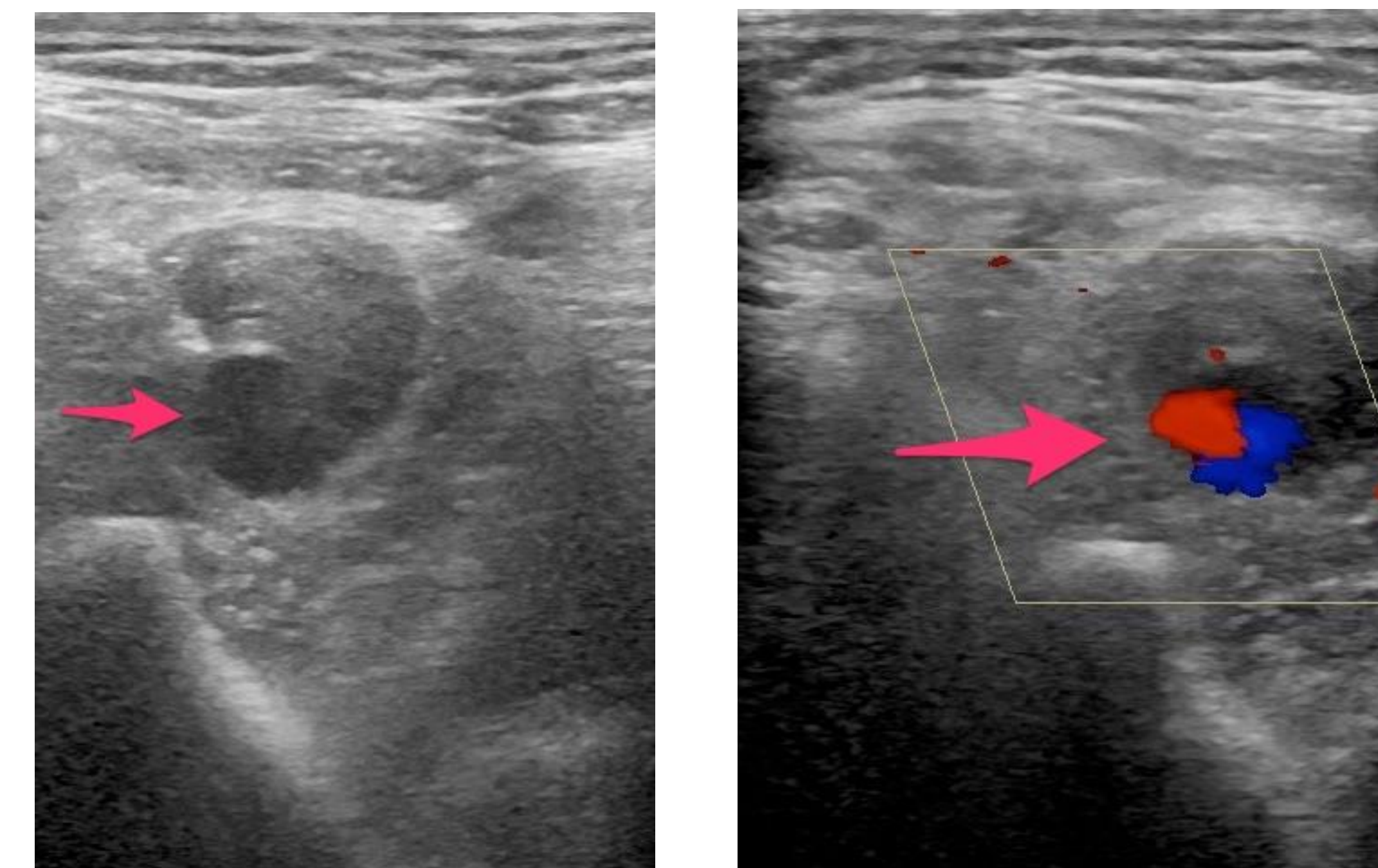


Image 5 (Left): Partially thrombosed pseudoaneurysm of iliopsoas muscle (red arrow)

Image 6 (Right): To and fro flow in pseudoaneurysm (red arrow)

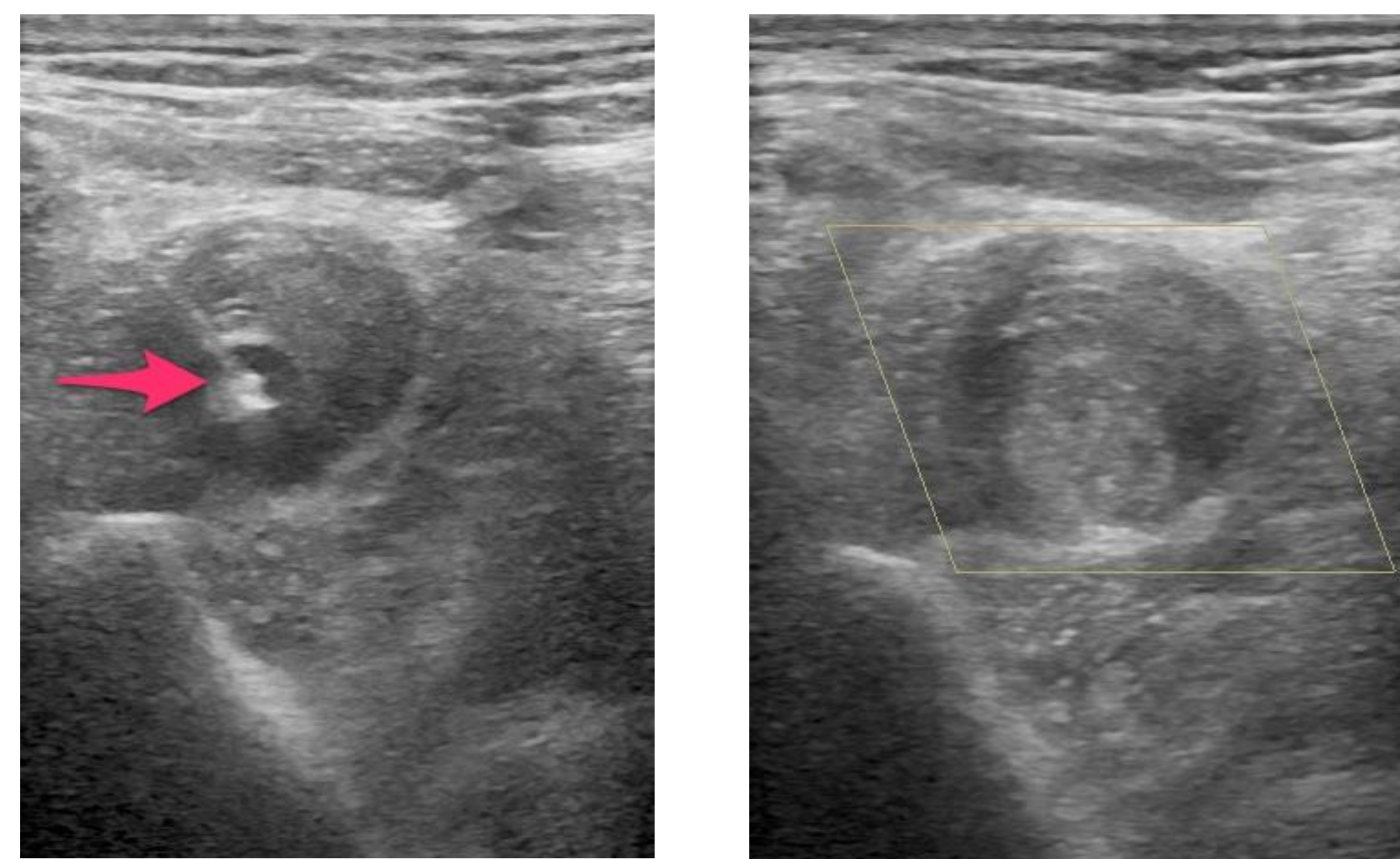


Image 6 (Left): Needle entry and thrombin injection in pseudoaneurysm (red arrow).

Image 7 (Right): Absence of flow in pseudoaneurysm after thrombin injection

Conclusion

Pseudoaneurysm and bleeding were most likely caused by entry of micro-puncture wire in superficial circumflex iliac artery. Every effort should be made to continuously monitor position of devices during vascular access.