

INTRODUCTION

- **Thoracic Aortic Thrombus (TAT):**
 - Mural thrombi are attached to the luminal wall of a large blood vessel or cardiac chamber
 - Majority found in descending aorta
 - Occur secondary to atherosclerosis
 - Management includes: anticoagulation, thrombolysis, surgery
 - Thoracic endovascular aneurysm repair (TEVAR) is most common treatment modality
- **Penetrating Arterial Ulcer (PAU)**
 - Incidence is 2-8%
 - 40-50% of PAUs progress to acute classic aortic dissection
 - Females with PAUs tend to have worse outcomes

CASE PRESENTATION

- 80 year old woman with bilateral renal infarct and persistent abdominal/back pain secondary to extensive descending thoracic/thoracoabdominal aortic thrombus despite oral anticoagulation treatment
- **CT Scan:**
 - 6mm penetrating aortic ulcer (PAU) proximal to celiac artery (**Figure 1**)
 - > 50% stenosis of distal left common femoral artery (CFA)
- **Operative Intervention:**
 - Stent grafts planned across Zone 2 to Zone 4 (**Figure 2**)
 - Stent grafts in descending thoracic aorta distal to subclavian and proximal to celiac artery (**Figure 3**)
 - Thromboembolism in the left CFA and external iliac artery (EIA) on intraoperative imaging
 - Open endarterectomy, retrograde stent graft in left EIA and bilateral stents in the common iliac arteries (**Figure 4**)
 - Flow-limiting thromboembolism in the left superficial femoral artery (SFA) treated with covered stent graft
 - Palpable pedal pulses bilaterally at conclusion of the case

IMAGES



Figure 1: Mural thrombus with PAU in descending thoracic aorta on CTA.

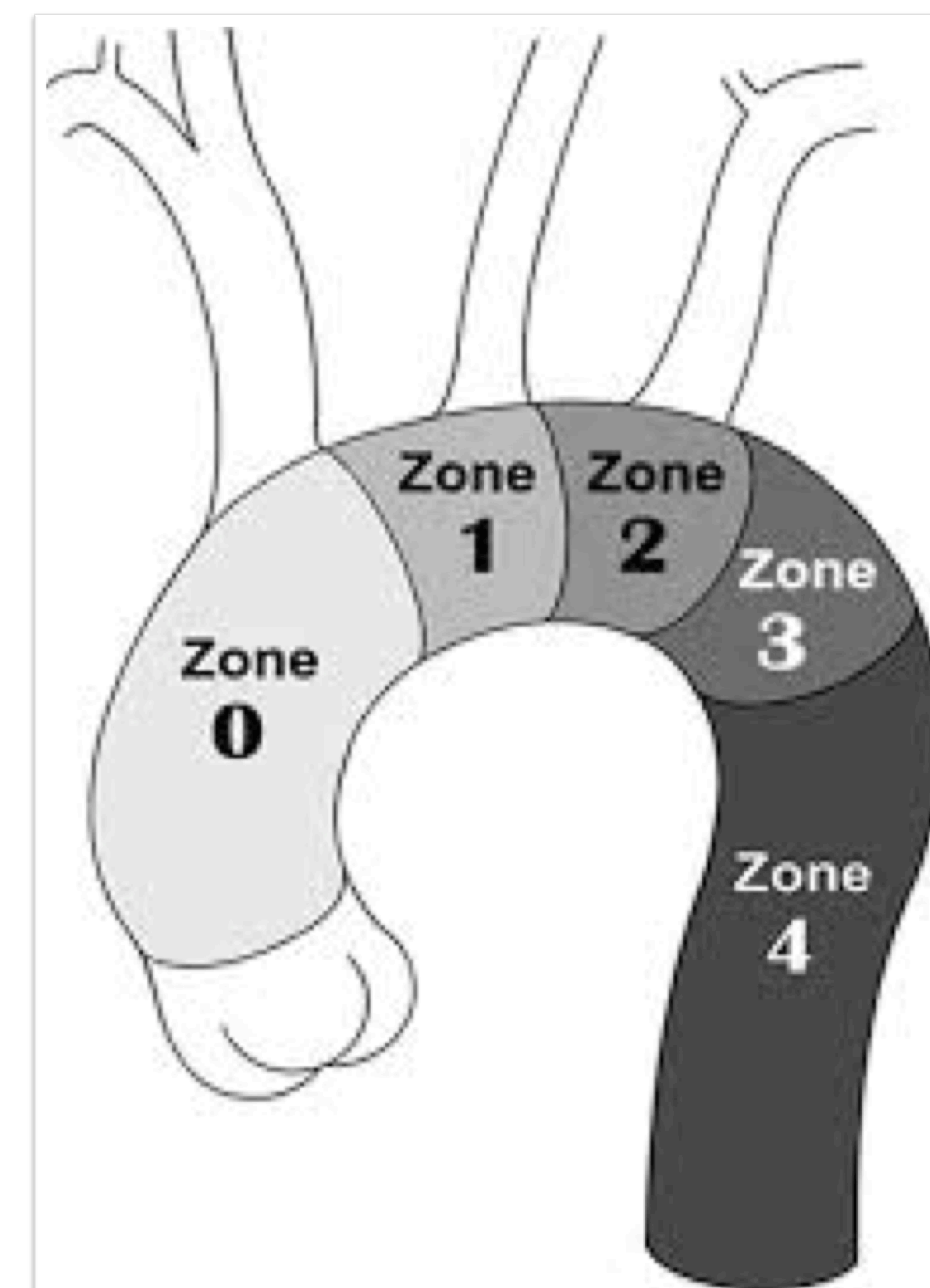


Figure 2: TEVAR landing zones.

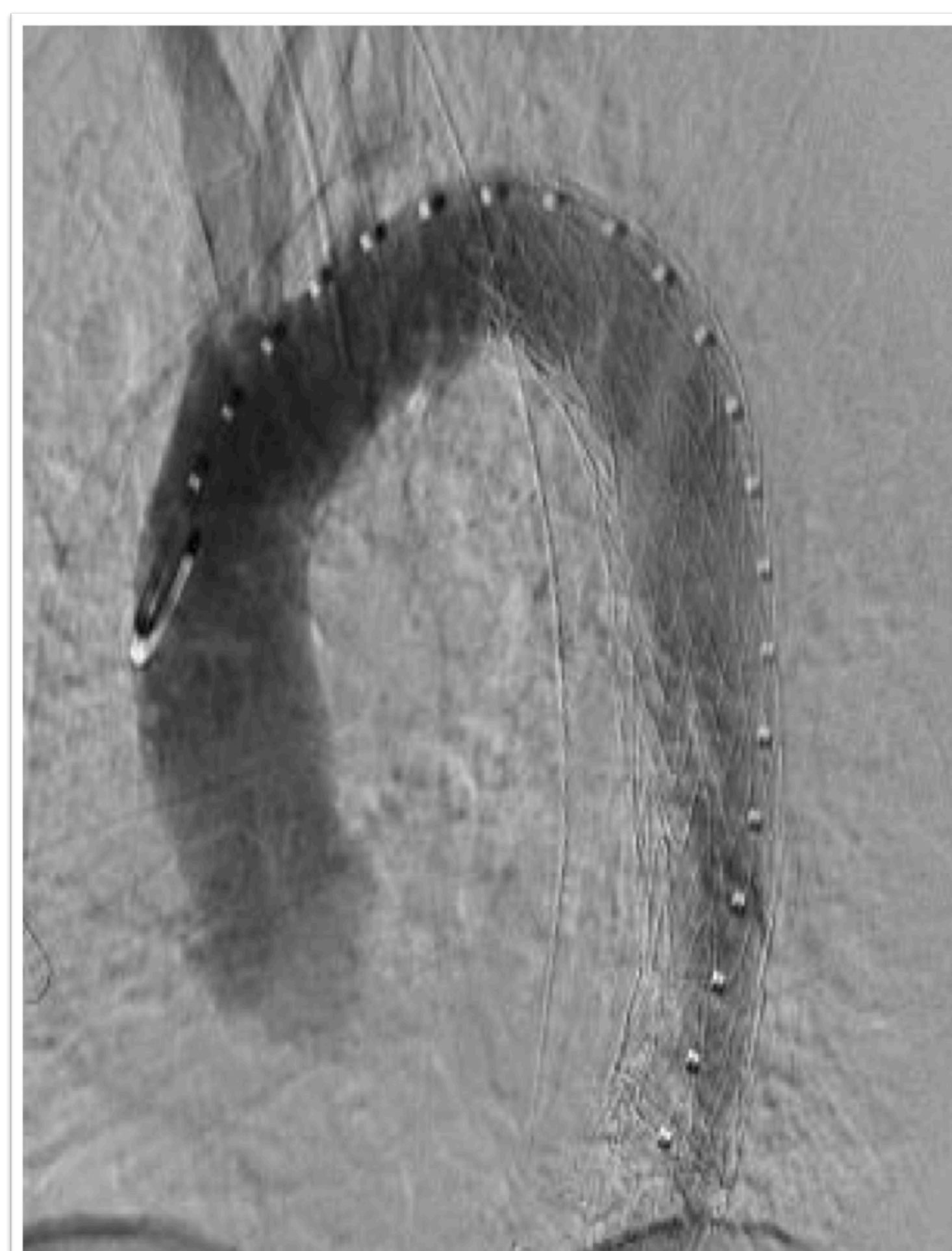


Figure 3: Stent graft extending from Zone 2 to Zone 4 on intraoperative aortogram.

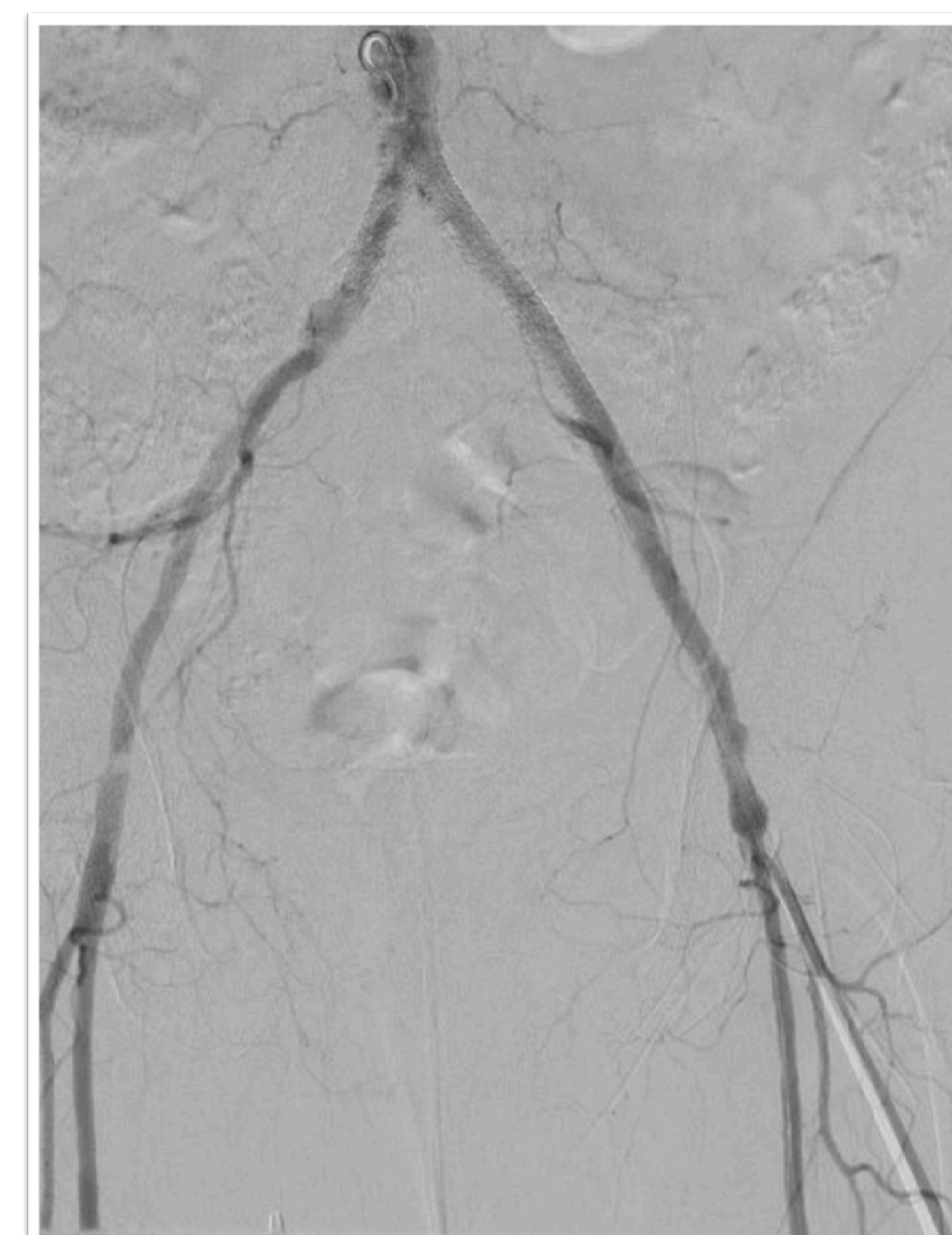


Figure 4: Stent grafts in common iliac arteries bilaterally on postoperative CTA.

DISCUSSION

- **TAT:**
 - Incidence is unknown
 - May be symptomatic or diagnosed as an incidental finding on computed tomography (CT)
 - Reported 73% incidence of embolic events in patients with mobile mural thrombi
 - Mortality of complex plaques up to 20% in three years
 - TEVAR is minimally invasive compared to open endarterectomy
 - TEVAR allows for simultaneous stent graft placement
- **Penetrating Arterial Ulcer (PAU)**
 - PAU persisted despite long-term oral anticoagulation
 - We could assume thrombus was partially organized, therefore the patient was a candidate for TEVAR
- **TEVAR:**
 - Shortens operative times and decreases hospital stay
 - Improves perioperative morbidity and all-cause mortality
- **Potential complications of TEVAR:**
 - Hematoma at access site
 - Acute thrombosis of access vessel
 - Distal embolization
- Emergent revascularization is indicated in cases of acute thromboembolism with thrombectomy and intervention (angioplasty with/without stent placement) or bypass

CONCLUSION

- Stent grafts aid in prevention of future thromboembolism
- In this case we were able to successfully restore distal perfusion and contribute to overall improved quality of life