Aortic Endograft Surveillance

Muhamed Saric, MD, PhD; New York University, New York, USA

Aortopathies are serious disorders that often necessitate surgical repair. Many patients with aortopathies frequently have other comorbidities such as coronary artery disease, congestive heart failure, renovascular and peripheral arterial disease. Thus surgical repair in such patients has high perioperative morbidity and mortality. As an alternative to surgery, covered stent endografts are used for repairs of aortic aneurysms, dissections, traumatic injuries and penetrating ulcers. Ultrasonography is an important imaging modality for aortic endograft surveillance. For abdominal aorta, standard transabdominal ultrasound is most commonly used; however, abdominal aortic endograft may also be visualized using intracardiac echocardiography (ICE) catheters placed in the inferior vena cava. For thoracic aortic endografts, transesophageal echocardiography is the ultrasound test of choice. Irrespective of the ultrasound modality, the diameter of the native aorta and the diameter of the endograft are measured on gray scale images. On color Doppler imaging, special attention is paid to the proximal and distal ends of the graft where leaks into the excluded space may occur. Transesophageal echocardiography may also be used for guidance of percutaneous balloon fenestration of aortic dissection flaps.