SUMMARY

- The prevalence of calcific aortic stenosis is 2–3% in individuals age ≥75 years.
- Symptomatic aortic stenosis is associated with an average survival of 2–3 years and an increased risk of sudden death; aortic valve replacement improves both symptoms and survival.
- In high-risk patients with severe aortic stenosis who are not surgical candidates, 1- and 5-year survival rates are ~62% and 38%, respectively.
- TAVR is approved in Europe and was recently approved in the United States as an alternative to surgical aortic valve replacement in high-risk patients.

(Case contributed with permission by Dr. Andrew C. Eisenhauer.)

CASE 9: ATRIAL SEPTAL DEFECT CLOSURE

(Figs. 297e-15 to 297e-21; Videos 297e-51 to 297e-53)

- A 48-year-old female with increased shortness of breath, exercise intolerance, and an 18-mm secundum ASD.
- Echocardiogram showed a dilated right atrium (RA) and right ventricle (RV) with evidence of right ventricular volume overload.

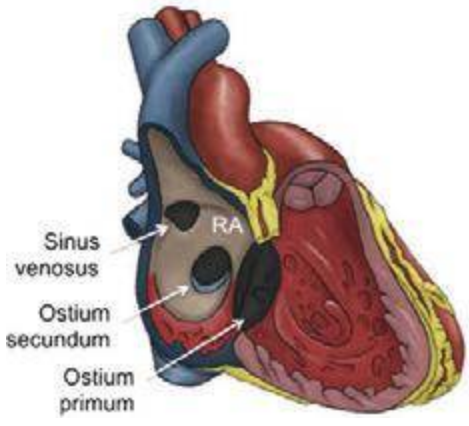

FIGURE 297e-15 Anatomic location of common atrial septal defects (ASDs). The most common ASDs are the sinus venosus, ostium secundum, and ostium primum ASDs. The sinus venosus ASD is located at the junction of the superior vena cava (SVC) and the right atrium (RA). This ASD is often associated with anomalous drainage of the right-side pulmonary veins into the RA instead of the left atrium. The secundum ASD is located at the foramen ovale and allows blood to flow between the RA and the left atrium. The primum ASD, also known as an atrioventricular septal defect, connects the RA and right ventricle with the left atrium and ventricle. *(Illustration by Justin E. Tribuna.)*

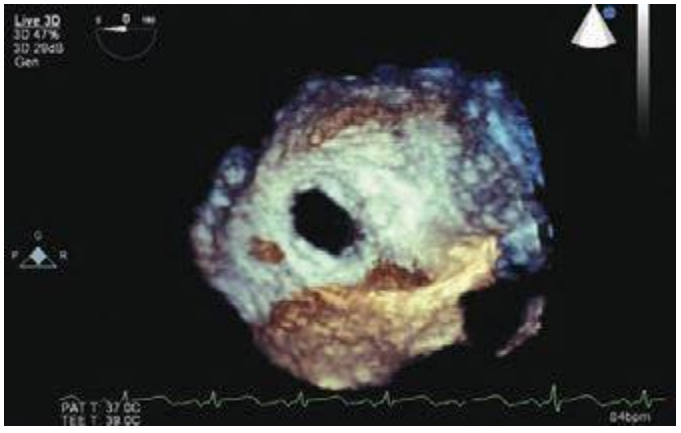

FIGURE 297e-17 Three-dimensional echocardiographic reconstruction of the secundum ASD. The ASD is round and has an acceptable margin of tissue to seat a septal occluder device.

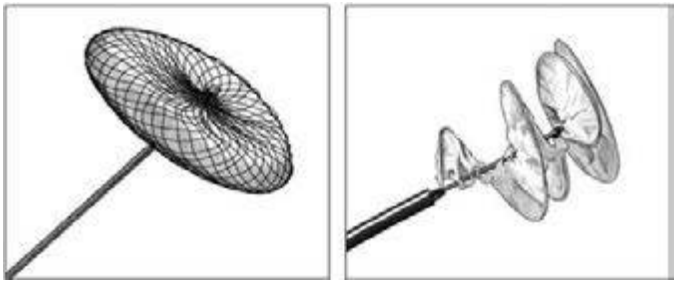

FIGURE 297e-18 ASD percutaneous closure devices. The Amplatzer® septal occluder (*left*) and the HELEX® septal occluder (*right*) are among the devices used for percutaneous closure of ASDs. The Amplatzer® septal occluder is a plug between two disks that are positioned on each side of the ASD to obstruct blood flow. The HELEX® Septal Occluder is positioned on each side of the ASD to allow circular rings covered with rapidly stretching polytetrafluoroethylene device to limit blood flow. The delivery catheters are detached and the devices are left in place. *(Illustration by Justin E. Tribuna.)*

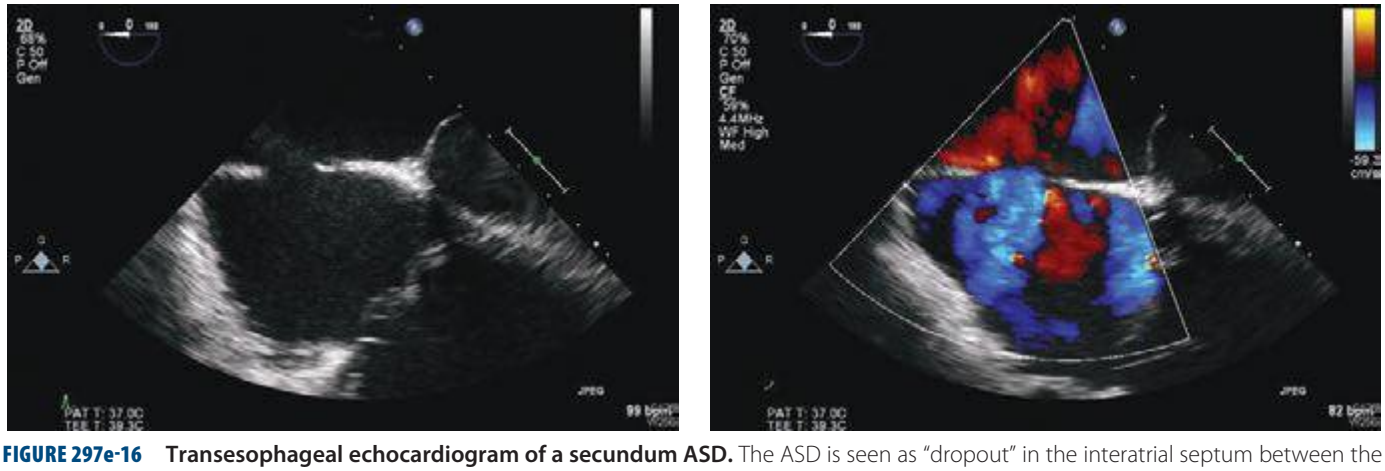

FIGURE 297e-16 Transesophageal echocardiogram of a secundum ASD. The ASD is seen as "dropout" in the interatrial septum between the left atrium (LA) and RA (*left*). Doppler color flow imaging shows blue in the RA consistent with left-to-right flow (*right*).