CASE PRESENTATION

59 year old male with recent ablation for atrial fibrillation presented to the emergency room status post cardiac arrest. CT angiography of the chest showed multiple extraluminal foci of air between the esophagus and left atrium, suggestive of a fistulous connection between the left atrium and esophagus. This finding was confirmed when the patient underwent surgical closure of the atrioesophageal fistula on hospital day 2. The patient had a complicated course in the ICU including bacteremia and cardiogenic shock and expired on hospital day 10 from cardiac arrest.

DISCUSSION

Left atrial to esophageal fistula is a rare complication of radiofrequency ablation used to treat atrial fibrillation with an incidence of approximately 0.3-0.4% 3,4. The diagnosis was first discovered in the early 2000s. If diagnosis is delayed or missed, left atrial to esophageal fistula can be fatal. Mortality rate has been reported to range between 71 to 83%4. The exact cause is unknown but current theories suggest adverse healing of the esophageal thermal injury.

Patients present one to four weeks after the ablation procedure3. Presenting clinical features are often nonspecific but most commonly include fever, upper gastrointestinal bleeding, sepsis and neurologic symptoms secondary to stroke. Mortality and morbidity is often secondary to hemorrhage, air embolism, cerebrovascular accidents and sepsis from a gastrointestinal source3. The delay in diagnosis is often attributed to the lack of awareness of the diagnosis and the clinical presentation which is often similar and mistaken for infective endocarditis.

Early repair by esophageal stenting or surgical repair are the treatments of choice. Surgical treatment includes primary esophageal repair and placement of a biologic barrier between the esophagus and atria4. Mortality is 100% without surgical intervention1.

RADIOGRAPHIC FINDINGS

The diagnostic modality of choice is a CT angiography of the chest. It may show the direct finding of a fistulous connection between the esophagus and left atrium with contrast extravasating from the left atrium into the esophagus. Another direct sign is extravasation of contrast from into the mediastinum. Indirect findings include air within the left atrium, signs of esophageal injury, pneumomediastinum, pneumopericardium, or a diverticulum along the poster wall of the left atrium. In some cases, CT of the chest is normal. Imaging of the brain, including CT and MRI, may show pneumocephalus or multifocal areas of cerebral ischemia.

CONCLUSIONS

Left atrial to esophageal fistula is a rare but often fatal complication of radio frequency ablation for the treatment of atrial fibrillation. Radiologists need to have a high clinical suspicion to assist the ordering physician to get the patient the appropriate care.

REFERENCES