

# Initial Management of an Asymptomatic Sinus of Valsalva Aneurysm.

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# Initial Management of an Asymptomatic Sinus of Valsalva Aneurysm

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## INTRODUCTION

Sinus of valsalva aneurysms are uncommon, occurring in 0.09% of the population. Congenital aneurysms are generally on the right coronary cusp and right side of the heart. Acquired aneurysms can be caused by tuberculosis, syphilis, infective endocarditis, atherosclerosis or trauma. Aneurysms are typically asymptomatic until rupture unless large enough to cause obstructive symptoms. Ruptures classically occur during periods of exertion or trauma, and may present as chest pain, difficulty breathing, and subsequent signs of cardiac failure. Once ruptured, median survival is 1–2 years without surgical intervention.

## CASE PRESENTATION

A 62-year-old male presented for a routine follow-up and was found to have a new 2/6 systolic ejection murmur at the upper left sternal border in September of 2014. A 2D echocardiogram revealed a sinus of valsalva aneurysm approximately 5cm in size. A cardiac MRI was done to further characterize the aneurysm which confirmed a sinus of valsalva aneurysm involving the right coronary cusp, measuring 47mm. The decision was made to monitor the aneurysm; after approximately 2 years, the aneurysm appears to be relatively stable at 49mm. Annual monitoring will be continued and surgical repair will be reconsidered if the size progresses to > 50mm.

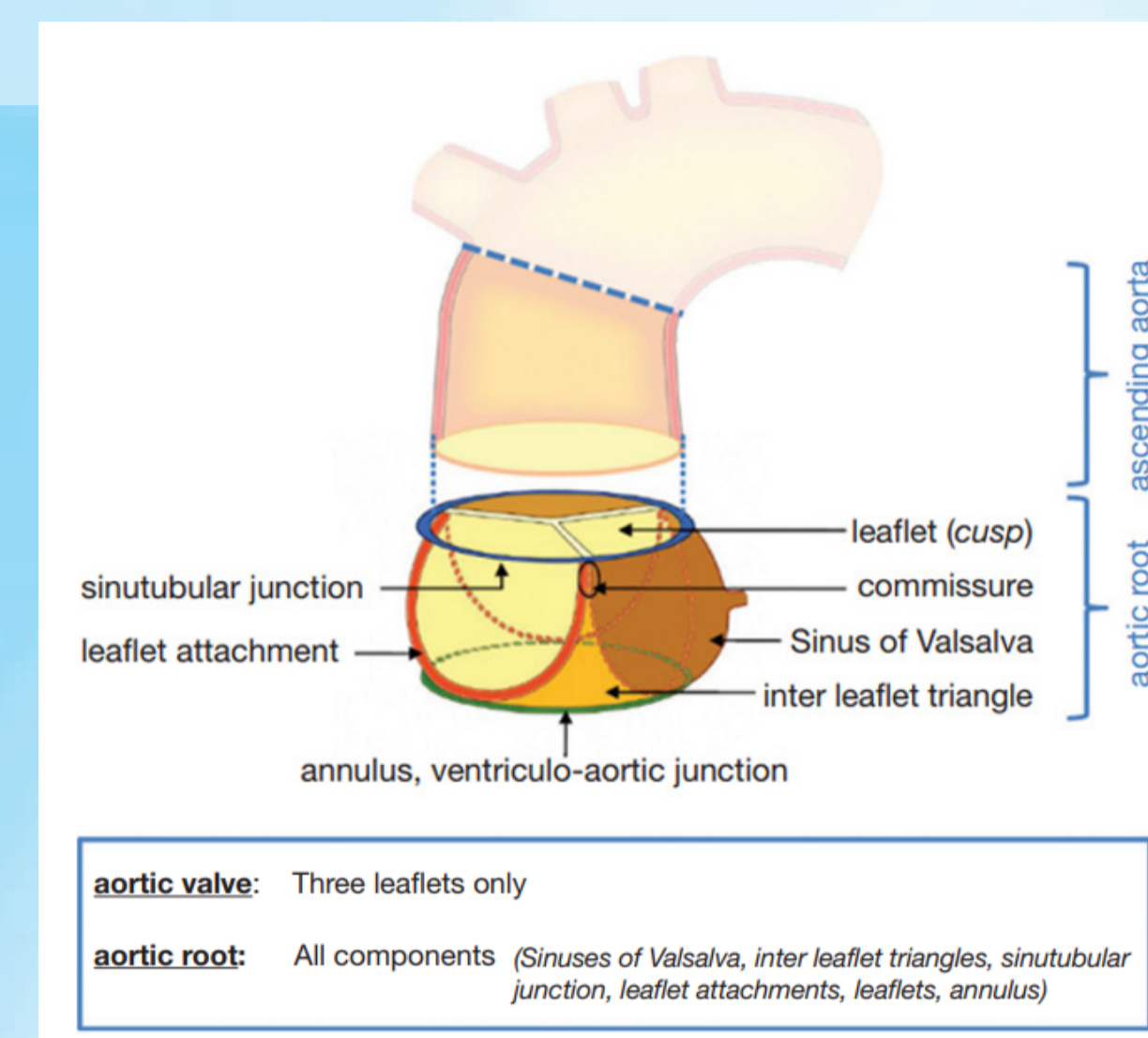


Figure 1: Aortic Root Anatomy

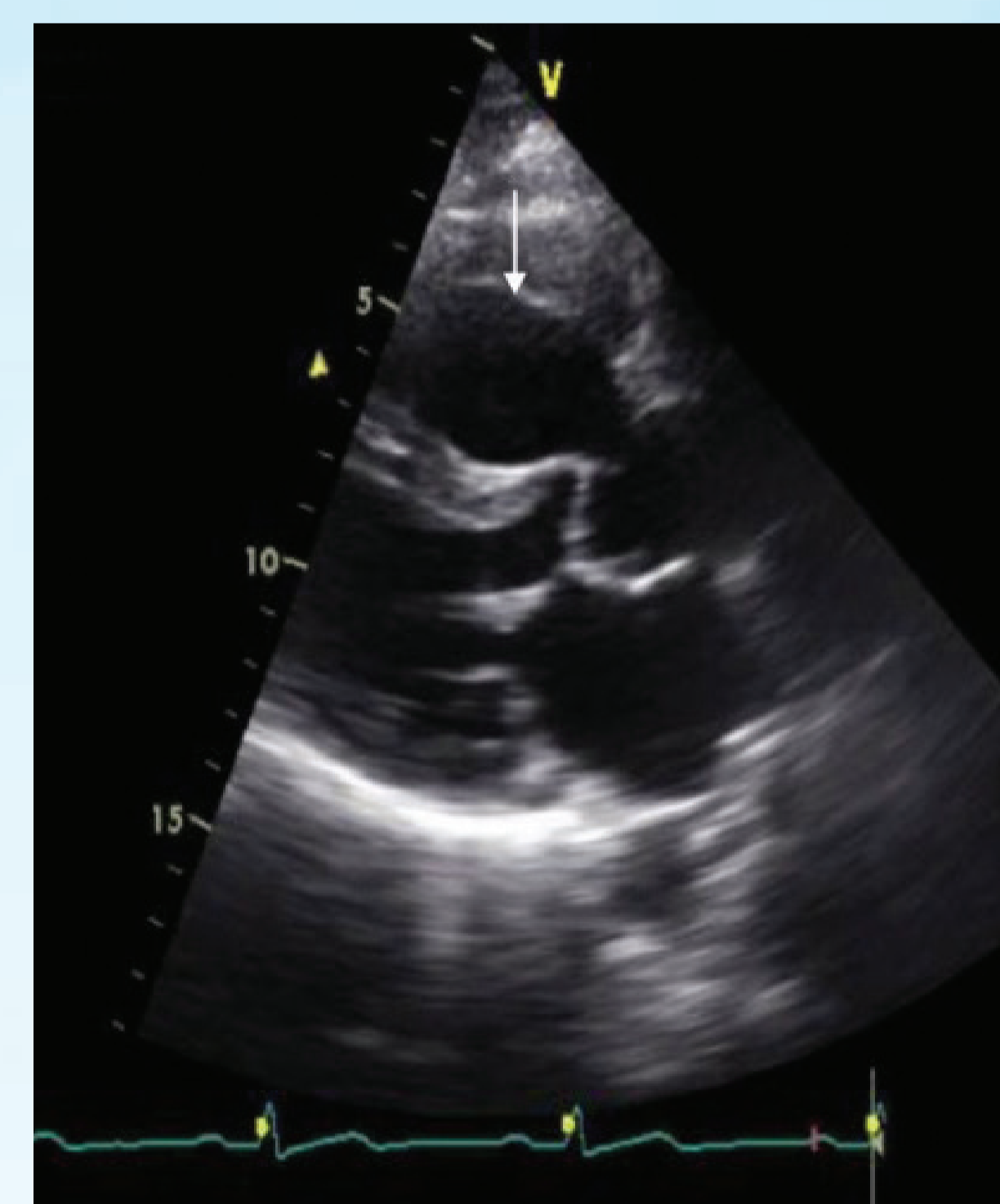


Figure 2: TTE, Parasternal Long Axis View revealing aneurysm of right coronary sinus

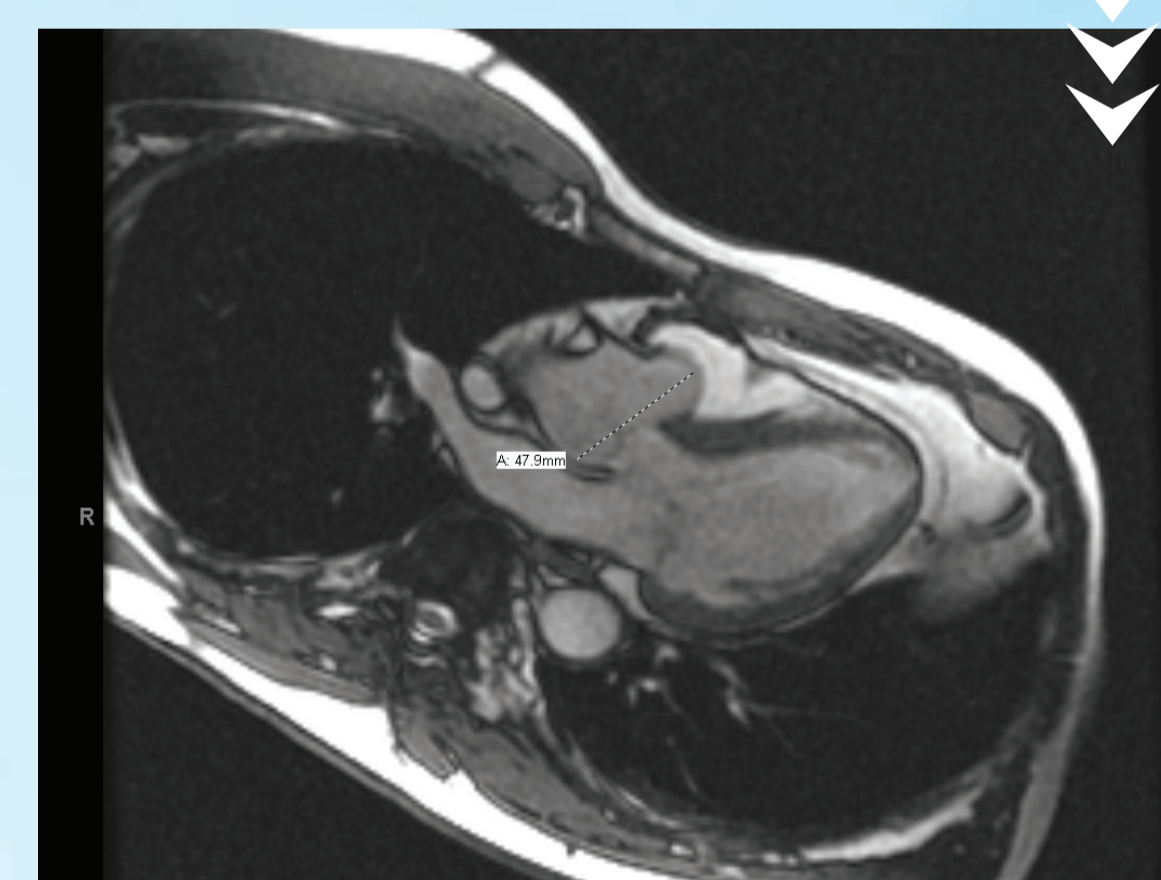
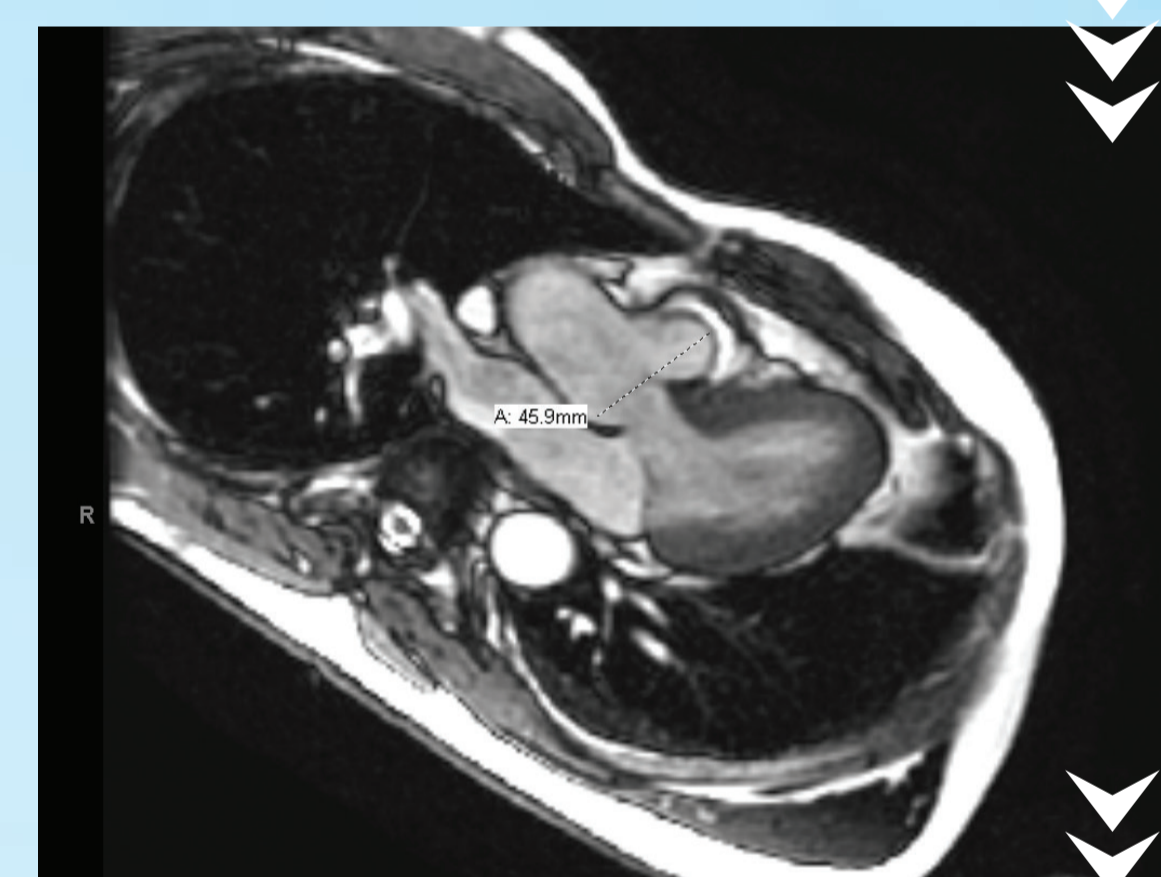
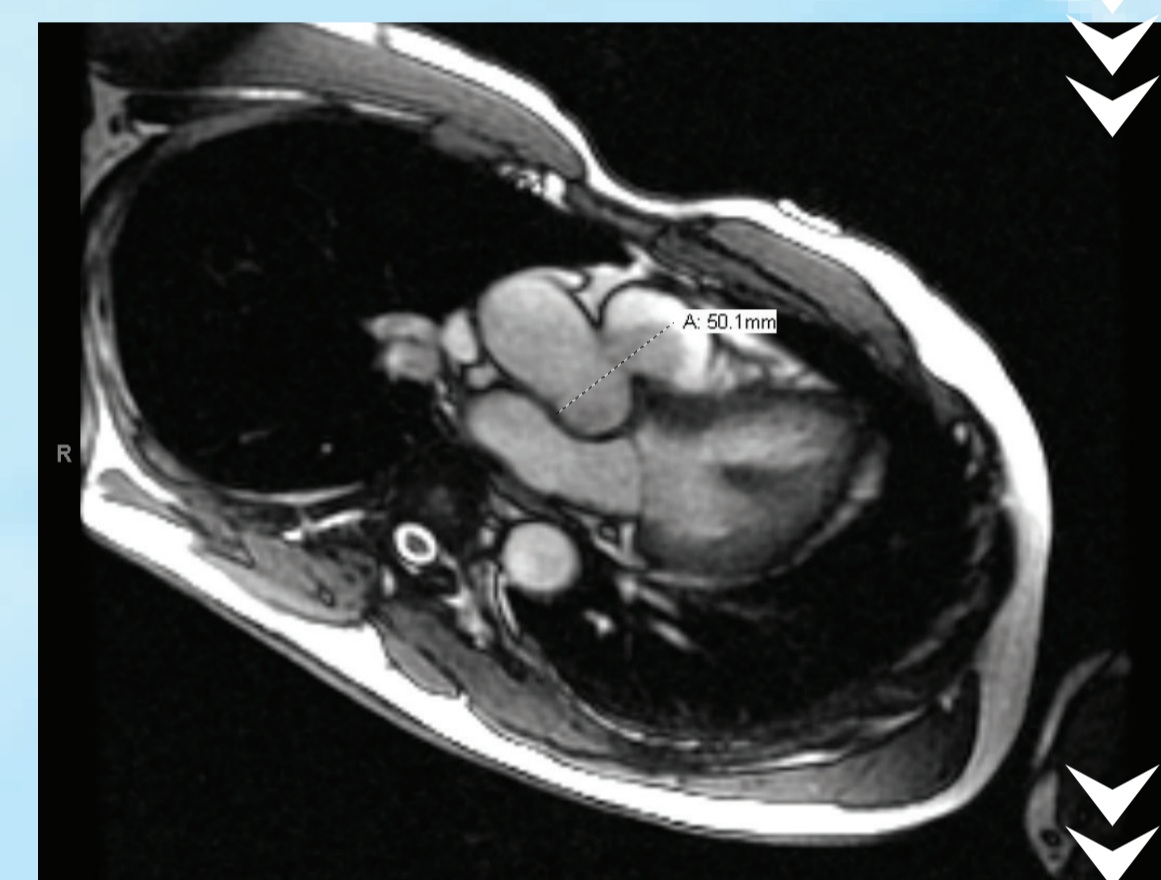
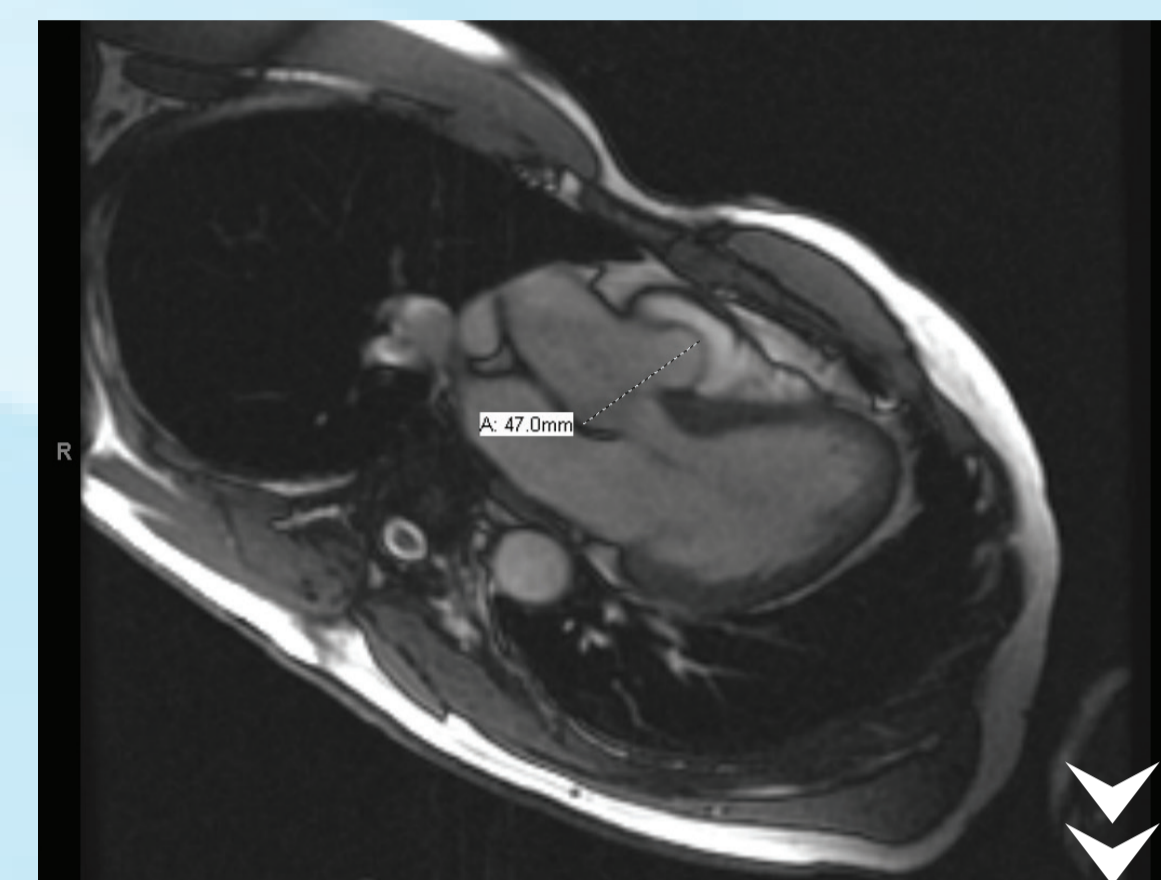


Figure 3: Progression of aneurysm of right coronary sinus over the past 3 years

## DISCUSSION

- Diagnosis prior to rupture is generally incidental due to the asymptomatic nature of the aneurysms.
- Management and surveillance of unruptured aneurysms is not established; however the guidelines for aortic root aneurysm are ordinarily accepted: surgical repair should be considered with aneurysms >5.5cm, >5cm with bicuspid valves, and >4.5cm with connective tissue disease or in those with a growth of >0.5cm/year.
- Ruptures classically occur during periods of exertion or trauma, and may present as chest pain, difficulty breathing, and subsequent signs of cardiac failure: peripheral edema, low cardiac output and a machinery-type continuous murmur. However, ruptures may present with sudden cardiac death. In any patient with the acute development of congestive heart failure symptoms or continuous murmur, an echocardiogram should be obtained. If a ruptured aneurysm is discovered, immediate surgical intervention is necessary.
- Once ruptured, median survival is 1 to 2 years without surgical intervention; death is typically secondary to congestive heart failure, but infective endocarditis is reported in 8% of deaths. Surgical repair after rupture is highly successful, with 10-year survival rates around 91-95%. Primary suture closure can be done with smaller ruptures, but patch closure is the mainstay for larger ruptures. Yearly follow-up with a cardiologist is imperative in both ruptured and unruptured groups, as is monitoring for signs and symptoms of infectious endocarditis.

## LEARNING POINTS

- Sinus of Valsalva aneurysms are rare and can be congenital or acquired.
- Progression and size is a predictor of rupture and risk of rupture.
- There are no guidelines for the management of asymptomatic incidental findings of Sinus of Valsalva aneurysm; however given the serious complication that could arise from its rupture, some physicians recommend operating on asymptomatic patients.

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