Aortic insufficiency

Definition

Aortic insufficiency is a heart valve disease in which the aortic valve weakens or balloons, preventing the valve from closing tightly. This leads to the backward flow of blood from the aorta (the largest blood vessel) into the left ventricle (the left lower chamber of the heart).

Alternative Names

Aortic valve prolapse; Aortic regurgitation

Causes

Aortic insufficiency can result from any condition that weakens the aortic valve. The condition causes dilation (widening) of the left lower chamber of the heart, which continues to get worse with time. As this area of the heart becomes dilated, it is less able to pump blood to the rest of the aorta. The heart tries to make up for the problem by sending out larger amounts of blood with each heart contraction. This leads to a strong and forceful pulse (bounding pulse).

In the past, rheumatic fever was the primary cause of aortic insufficiency. Now that antibiotics are used to treat rheumatic fever, other causes are more commonly seen.

Causes of aortic insufficiency may include:

- Ankylosing spondylitis
- Aortic dissection
- Congenital (present at birth) valve problems
- Endocarditis
- High blood pressure
- Marfan syndrome
- Reiter syndrome
- Syphilis
- Systemic lupus erythematosus

Aortic insufficiency affects approximately 5 out of every 10,000 people. It is most common in men between the ages of 30 and 60.

Symptoms

- Bounding pulse
- Chest pain, angina type (rare)
  - Under the chest bone; pain may move to other areas of the body
  - Crushing, squeezing, pressure, tightness
  - Pain increases with exercise, and goes away with rest
• Fainting
• Fatigue, excessive tiredness
• Irregular, rapid, racing, pounding, or fluttering pulse
• Palpitations
• Shortness of breath with activity or when lying down
• Weakness, particularly with activity

Note: Aortic insufficiency commonly shows no symptoms for many years. Symptoms may then occur gradually or suddenly.

Exams and Tests

The doctor may hear a heart murmur when listening to the chest with a stethoscope. Palpation (examination by hand) may reveal a very forceful beating of the heart.

Diastolic blood pressure may be low. There may be signs of fluid in the lungs.

Aortic insufficiency may be seen on:

• Aortic angiography
• Doppler ultrasound
• Echocardiogram - ultrasound examination of the heart
• Left heart catheterization
• Transesophageal echocardiogram (TEE)

An ECG or chest x-ray may show swelling of the left lower heart chamber.

Lab tests cannot diagnose aortic insufficiency, but they may be used to rule out other disorders or causes.

Treatment

If there are no symptoms or if symptoms are mild, you may only need to get an echocardiogram from time to time and be monitored by a health care provider.

If the blood pressure is high, then treatment with certain blood pressure medications may help slow the worsening of aortic regurgitation.

ACE inhibitor drugs and diuretics (water pills) may be prescribed for more moderate or severe symptoms.

In the past, most patients with heart valve problems were given antibiotics before dental work or an invasive procedure, such as colonoscopy. The antibiotics were given to prevent an infection of the damaged heart. However, antibiotics are now used much less often before dental work and other procedures.

Moderate activity restriction may be recommended. People with severe symptoms should avoid strenuous activity.

Surgery to repair or replace the aortic valve corrects aortic insufficiency. The decision to have aortic valve replacement depends on your symptoms and the condition and function of the heart.

Surgery to repair the aorta may be required if the condition is caused by disorders of the aorta.

Outlook (Prognosis)

Aortic insufficiency is curable with surgical repair. This can completely relieve symptoms unless severe heart failure is present or other complications develop. Without treatment, patients with angina or congestive heart failure do poorly.

Possible Complications

• Left-sided heart failure
• Pulmonary edema
• Endocarditis

When to Contact a Medical Professional

Call your health care provider if:
• You have symptoms of aortic insufficiency
• You have aortic insufficiency and symptoms worsen or new symptoms develop, especially chest pain, difficulty breathing, or edema (swelling)

Prevention

Treat strep infections promptly to prevent rheumatic fever, which can lead to aortic insufficiency. Aortic insufficiency caused by other conditions often cannot be prevented but some of the complications can be.

Follow the provider’s treatment recommendations for conditions that may cause valve disease. Notify the provider if you have a family history of congenital heart diseases.

Blood pressure control is particularly important if you are at risk for aortic regurgitation.

References


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