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Wolff-Parkinson-White syndrome

Wolff-Parkinson-White syndrome is a heart condition in which there is an abnormal extra electrical pathway of the heart. The condition can lead to episodes of rapid heart rate (tachycardia).

Wolff-Parkinson-White syndrome is one of the most common causes of fast heart rate disorders in infants and children.

Causes

Normally, electrical signals in the heart go through a certain pathway that helps the heart beat regularly. The wiring of the heart prevents extra beats from occurring and keeps the next beat from happening too soon.

In people with Wolff-Parkinson-White syndrome, some of the heart's electrical signal goes down an extra (accessory) pathway. This may cause a very rapid heart rate called supraventricular tachycardia.

Most people with Wolff-Parkinson-White syndrome do not have any other heart problems. However, this condition has been linked with other conditions, such as Ebstein's anomaly. There is also a form that runs in families.

Symptoms

How often the rapid heart rate occurs depends on the patient. Some people with Wolff-Parkinson-White syndrome may have just a few episodes of rapid heart rate. Others may have the rapid heart rate once or twice a week or more. Sometimes there are no symptoms, and the condition is found when a heart test is done for another reason.

A person with this syndrome may have:

- Chest pain or chest tightness
- Dizziness
- Light-headedness
- Fainting
- Palpitations (a sensation of feeling your heart beat)
- Shortness of breath

Exams and Tests

An exam performed during a tachycardia episode will show a heart rate faster than 100 beats per minute. A normal heart rate is 60 - 100 beats per minute in adults, and under 150 beats per minute in newborns, infants, and small children. Blood pressure will be normal or low.

If the patient is currently not having tachycardia, the physical exam may be completely normal.

Wolff-Parkinson-White syndrome may be diagnosed through continuous ambulatory ECG monitoring, such as with a Holter monitor.

A test called an electrophysiologic study (EPS) is done using catheters that are threaded up to the heart from an IV placed in the leg. It may help identify the location of the extra electrical pathway.

Treatment

Medicine such as adenosine, antiarrhythmic drugs, and amiodarone may be used to control or prevent a rapid heartbeat.

If the heart rate does not return to normal with medication, doctors may use a type of therapy called electrical cardioversion (shock).

The long-term treatment for Wolff-Parkinson-White syndrome is catheter ablation. This procedure involves inserting a tube (catheter) into an artery through a small cut near the groin up to the heart area. When the tip reaches the heart, the small area that is causing the fast heart rate is destroyed using a special type of energy called radiofrequency.

Open heart surgery to burn or freeze the extra pathway may also provide a permanent cure for Wolff-Parkinson-White syndrome. However, surgery is usually done only if you need surgery for other reasons.

Outlook (Prognosis)

Catheter ablation cures this disorder in most patients. The success rate for the procedure ranges between 85 and 95%. Success rates will vary depending on the location and number of extra pathways.

Possible Complications

- Complications of surgery
- Heart failure
- Reduced blood pressure (caused by rapid heart rate)
- Side effects of medications

The most severe form of a rapid heartbeat is ventricular fibrillation. It may rapidly lead to shock or death, and requires emergency treatment (cardioversion). Atrial fibrillation can lead to ventricular fibrillation.

When to Contact a Medical Professional

Call your health care provider if:

- You have symptoms of Wolff-Parkinson-White syndrome
- You have this disorder and symptoms get worse or do not improve with treatment

Because there are some inherited forms of this condition, discuss with your health care provider whether your family members should be screened.

Alternative Names

Preexcitation syndrome; WPW

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