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Supraventricular tachycardia (Svt)

Supraventricular tachycardia (SVT) causes an abnormally fast heart rate. It can cause symptoms such as palpitations, dizziness and shortness of breath. Many episodes of SVT don't last very long and stop without any treatment. Sometimes treatment with either medication or electric shock treatment is needed to stop an episode of SVT.

What is SVT?

Supraventricular tachycardia (SVT) causes an abnormal heart rhythm. During an episode of SVT, the heartbeat is not controlled by the sinoatrial (SA) node (the normal timer of the heart). Another part of the heart overrides this timer with faster impulses. The source or trigger of the impulse in an SVT is somewhere above (supra) the ventricles, but the impulse then spreads to the ventricles. There are three main types of SVT:

- **Atrioventricular nodal re-entry tachycardia (AVNRT)**.This is the most common type of SVT. It is most commonly seen in people in their twenties and thirties and is more common in women. It occurs when there is an electrical short circuit in the centre of the heart. An extra impulse starts to race around this short circuit.
- **Atrial tachycardia**. This arises from a small area of tissue, anywhere in the atria of the heart. This area starts to fire and drive the heart, more rapidly than the heart's natural pacemaker.
- Wolff-Parkinson-White (WPW) syndrome.

SVT symptoms

Symptoms last as long as the episode of SVT lasts. This may be seconds, minutes, hours or, rarely, longer. Possible symptoms include the following.

- Your pulse rate becomes 140-200 beats per minute (bpm). Sometimes your pulse may be even faster. (The normal pulse is 60-100 bpm.)
- 'Thumping heart' sensations (palpitations).
- Dizziness, or feeling light-headed.
- You may become breathless.
- You may occasionally feel some mild chest discomfort.
- If you have angina then an angina pain may be triggered by an episode of SVT.

You may have no signs or symptoms, or you are just aware of your fast heartbeat. Sometimes your blood pressure may become low with too fast a heart rate, especially if it continues beating too quickly for several hours. In some cases this causes a faint or collapse. This is more likely if you are older and have other heart or lung problems.

An episode of SVT usually starts very suddenly and for no apparent reason. It may last just a few seconds or minutes; however, it can last several hours. It then stops just as suddenly as it started. Rarely, an episode lasts longer than a few hours.

The time between episodes of SVT can vary greatly. In some cases, short bursts of SVT occur several times a day. At the other extreme, an episode of SVT may occur just once or twice a year. In most cases it is somewhere in between and an episode (paroxysm) of SVT occurs now and again.

Risk factors

Risk factors for developing an episode of SVT include:

- **Certain medications** - eg, some asthma inhalers and some types of herbal supplements and cold remedies.
- Caffeine.
- Alcohol.
- Stress or emotional upset.
- Smoking.

Avoiding these triggers will often reduce the frequency of SVTs.

SVT treatment

Stopping an episode of SVT

- Many episodes of SVT soon stop on their own, and no treatment is then needed.
- It is sometimes possible to stop an episode of SVT by various measures, including drinking a cold glass of water, holding your breath or putting your face into cold water.
- If an episode of SVT lasts a long time or is severe, you may need to be admitted to hospital to stop it.
- Medicines which are given by injection into a vein will usually stop an SVT. Adenosine is commonly used. It works by blocking electrical impulses in the heart.
- Verapamil is an alternative if adenosine is not advised or is not effective.
- Electric shock treatment is sometimes used to stop an episode of SVT.

Driving

In the UK, you must inform the DVLA and stop driving if the SVT has caused or might cause any symptoms when driving. You may be allowed to drive when the cause has been controlled for at least four weeks. The rules are much stricter if you drive a bus or lorry for work.

Preventing SVT

Options include the following:

- **Not treating** is an option if episodes of SVT are infrequent, only last a short time, or cause few symptoms.
- **Medication**. Examples include verapamil and beta-blockers. If one does not work or causes side-effects, another can often be found to suit you.

- **Tissue destruction using a catheter (catheter ablation)**. A small wire (catheter) is passed via a large vein in the top of the leg into the chambers of the heart. The tip of the catheter can destroy a tiny section of heart tissue that is the source or trigger of the abnormal electrical signals.

Treatment is generally only recommended for atrial tachycardia if it is causing you symptoms.

Further reading

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