Supraventricular Tachycardia

Supraventricular tachycardia (SVT) is an abnormal heart rhythm (*arrhythmia*) that causes the heart to beat very fast (*tachycardia*). This kind of fast heart beat originates in the upper chambers of the heart (*atria)*. An SVT can cause the heart to beat greater than 100 beats per minute. SVT can have a rapid burst of heartbeats. This can start and stop suddenly without warning and is called *non-sustained*. SVT can also be *sustained*, in which the heart beats at a continuous fast rate.

CAUSES

There can be different causes of SVT. Some of these include:

- Heart valve problems such as Mitral Valve Prolapse.
- An enlarged heart (*Hypertrophic Cardiomyopathy*).
- Congenital heart problems.
- Heart inflammation (*Pericarditis*).
- Hyperthyroidism.
- Low potassium and/or magnesium levels.
- Caffeine.
- Drug use such as cocaine, methamphetamines or stimulants.
- Some over the counter medications such as:
  - Decongestants.
  - Diet medications.
  - Herbal medications.

SYMPTOMS

Symptoms of SVT can vary. Symptoms depend on if the SVT is sustained or non-sustained. These can include:

- No symptoms (*asymptomatic*).
- An awareness of your heart beating rapidly (*palpitations*).
- Shortness of breath.
- Chest pain or pressure.
- If your blood pressure drops because of the SVT, you may experience:
  - Fainting or near fainting.
  - Weakness.
  - Dizziness.

DIAGNOSIS

Different tests can be performed to diagnose SVT, such as:

- An electrocardiogram (EKG) is a painless test that records the electrical activity of your heart.
- Holter monitor. This is a 24 hour recording of your heart rhythm. You will be given a diary. Write down all symptoms that you have and what you were doing at the time you experienced symptoms.
- Arrhythmia monitor. This is a small device that your wear for several weeks. It records the heart rhythm when you have symptoms.
- Echocardiogram. This is an imaging test to help detect abnormal heart structure such as congenital abnormalities, heart valve problems, or if your heart is enlarged.
- Stress Test. This test can help determine if the SVT is related to exercise.
- Electrophysiology Study (EPS). This is a procedure that evaluates your heart's electrical system and can help your caregiver find the cause of SVT.

TREATMENT

Treatment of SVT depends on the symptoms, how often it recurs and whether there are any underlying heart problems.

- If symptoms are rare and no other cardiac disease is present, no treatment may be needed.
- Blood work may be done to check potassium, magnesium and thyroid hormone levels to see if they are abnormal. If these levels are abnormal, treatment to correct the problems will occur.

Medications:

Your caregiver may use oral medications to treat SVT. These medications are given for long-term control of SVT. Medications may be used alone or in combination with other treatments. These medications work to slow nerve impulses in the heart muscle. These medications can also be used to treat high blood pressure. Some of these medications may include:

- Calcium channel blockers.
- Beta blockers.
- Lanoxin.

Nonsurgical procedures:

Nonsurgical techniques may be used if oral medications do not work. Some examples include:

- **Cardioversion**. This technique uses either drugs or an electrical shock to restore a normal heart rhythm.
  - Cardioversion drugs may be given through an intravenous (IV) line to help "reset" the heart rhythm.
  - In electrical cardio version, the doctor shocks your heart to stop its beat for a split second. This helps to reset the heart to a normal rhythm.
- **Ablation**. This procedure is done under mild sedation. High frequency radio-wave energy is used to destroy the area of heart tissue responsible for the SVT.

HOME CARE INSTRUCTIONS

- Do not smoke.
- Only take medications prescribed by your caregiver. Check with your caregiver before using over-the-counter medications.
- Check with your caregiver as to how much alcohol and caffeine (coffee, tea, colas, or chocolate) you may have.
- It is very important to keep all follow-up referrals and appointments in order to properly manage this problem.

SEEK IMMEDIATE MEDICAL CARE IF YOU HAVE:

- Dizziness.
- Near fainting or fainting.
- Shortness of breath.
- Chest pain or pressure.
- Sudden nausea or vomiting.
- Profuse sweating.

If you have the above symptoms, call your local emergency service immediately! **Do not drive yourself to the hospital.**

MAKE SURE YOU:

- Understand these instructions.
- Will watch your condition.
- Will get help right away if you are not doing well or get worse.

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