Superior Vena Cava Syndrome

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Superior vena cava syndrome (SVCS) is a group of symptoms caused by the partial blockage or compression of the superior vena cava, the major vein that carries blood from the head, neck, upper chest, and arms to the heart. In most instances, SVCS is caused by cancer.

Symptoms

Relieving side effectsâ€"also called symptom management, palliative care [2], or supportive careâ€"is an important part of cancer care and treatment. Talk with your health care team about any symptoms you experience, including any new symptoms or a change in symptoms.

Symptoms usually develop slowly and include difficulty breathing or shortness of breath [3], coughing, and swelling of the face, neck, upper body, and arms. Rarely, patients may experience hoarseness, chest pain, difficulty swallowing, and hemoptysis (coughing up blood from the lungs and throat).

Rare, severe symptoms include swelling of the veins in the chest and neck, fluid collection in the arms and face, and an increased rate of breathing. In severe instances, a person's skin may turn blue due to cyanosis (lack of oxygen). Also, in rare instances, the person may experience paralysis (loss of the ability to move) of the vocal cords or Horner's syndrome, characterized by a constricted pupil, sagging eyelid, and absence of sweat on one side of the face. SVCS may develop quickly, completely blocking the trachea (airway). When this occurs, a ventilator may be needed to help the patient breathe until the blockage can be treated. More commonly, if the blockage develops slowly, other veins may enlarge to carry extra blood, and symptoms may be milder.

Because SVCS can cause serious breathing problems, it is considered an emergency. If you experience any of these symptoms, contact your doctor immediately. Although SVCS is serious and has symptoms that may be frightening, it is treated successfully in most people.

Causes

A tumor growing inside the chest may press on the superior vena cava, which drains into the right atrium (upper chamber) of the heart. The types of cancer that most commonly cause SVCS include lung cancer [4], non-Hodgkin lymphoma [5], and cancers that spread to the chest. Sometimes a tumor originally located outside the superior vena cava may grow into the vein, causing a blockage. Because the superior vena cava is surrounded by lymph nodes (tiny, bean-shaped organs that fight infection), any cancer that spreads to these lymph nodes and causes them to enlarge can also cause SVCS. Enlarged lymph nodes compress the vein, which slows blood flow and may result in complete blockage. A less common cause of SVCS is a thrombosis (blood clot) [6] in the vein, caused by an intravenous catheter (a flexible tube placed in a vein to take out or put in fluids) or a pacemaker wire.

Diagnosis

Tests that may be done to diagnose SVCS include a chest x-ray, computerized tomography (CT) scan [7], or magnetic resonance imaging (MRI) [8], venography (an x-ray done after injecting a special dye into the patient's vein), and ultrasound [9].

Management

If symptoms are mild, the trachea is not blocked, and blood is flowing well through other veins in the chest, treatment may not begin until a clear diagnosis is made, or treatment may not be needed. In most cases, SVCS is managed by treating the cancer that is causing the blockage with chemotherapy [10] or radiation therapy [11]. Other short-term treatments to reduce symptoms include raising the patient's head, giving corticosteroids (medications used to reduce swelling), or using diuretics (medications that eliminate excess fluid from the body by increasing urination). Less often, SVCS may be treated with thrombolysis (treatment to break up a blot clot in the vein), stent placement (the insertion of a tube-like device into the blocked area of the vein to allow blood to pass through), or surgery to bypass a blockage.

SVCS in children

SVCS in children can be life threatening. Because a child's trachea is smaller and softer than an adult's trachea, it can swell or become constricted quickly, causing breathing problems. Common childhood SVCS symptoms are similar to the symptoms that adults experience and may include coughing, hoarseness, difficulty breathing, and chest pain. Fortunately, SVCS is rare in children.

More Information

Managing Side Effects [12]

Additional Resources

National Cancer Institute: Superior Vena Cava Syndrome [13]

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Links:
[1] http://www.cancer.net/about-us
[2] http://www.cancer.net/node/25282
[3] http://www.cancer.net/node/25055
[4] http://www.cancer.net/node/19148
[5] http://www.cancer.net/node/19207
[6] http://www.cancer.net/node/25245
[7] http://www.cancer.net/node/24486
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