STAT

SUPERIOR VENA CAVA SYNDROME

SUPERIOR VENA CAVA SYNDROME is the obstruction of blood flow through the superior vena cava.



RISK FACTORS

- Intrathoracic malignancy, particularly lung (non-small cell lung cancer: 50% of cases; small cell lung cancer: 25%-35% of cases) and non-Hodgkin lymphoma (diffuse large B-cell lymphoma and lymphoblastic lymphoma: 10%-15% of cases)
- Thrombosis associated with catheters or pacemaker wires
- Rare causes: metastatic breast cancer, Hodgkin lymphoma, or other



CAUSES/ **PATHOPHYSIOLOGY**

- Solid tumor compression of the superior vena cava either by external compression from tumor or lymph nodes or direct invasion of the superior vena cava by thrombosis or tumor
- Causes venous congestion, leading to obstruction of blood return from the upper
- Cardiac output potentially affected by poor blood return to the heart

SIGNS & SYMPTOMS

- Facial swelling or head fullness (worse with bending down)
- Edema in the face, chest, neck, and upper extremities
- Headache
- Dyspnea and cough
- Distended veins in the chest
- Ruddy complexion
- Tachypnea; plethora
- Severe or life-threatening: confusion, obtundation from cerebral edema, stridor from laryngeal edema or hemodynamic compromise



DIAGNOSTIC ASSESSMENT

- Chest computed tomography with contrast
- Chest x-ray
- Ultrasound followed by tissue diagnosis as indicated

Prompt intervention can

BEST PRACTIC

avoid life-threatening outcomes.



- Assess for respiratory, cardiovascular, or neurologic compromise.
- Supportive care includes cardiovascular and respiratory support as needed.
- Symptom management addresses dyspnea with oxygen, elevation of head of bed, and anxiety management.
- Potentially treat underlying disease with radiation therapy, chemotherapy, or stenting.
- Thrombus is to be treated with anticoagulants or thrombolytics.
- Provide psychosocial support for symptoms and new or worsening cancer diagnosis.

ADDITIONAL RESOURCES

- Brant, J.M., & Walton, A. (2005). Superior vena cava syndrome: An education sheet for patients. Clinical Journal of Oncology Nursing, 9(4), 479-480. https://doi.org/ 10.1188/05.CJON.479-480
- Flounders, J.A. (2003). Oncology emergency modules: Superior vena cava syndrome. Oncology Nursing Forum, 30(4), E84-E90. https://doi.org/10.1188/03.ONF
- Kaplan, M. (2016). Structural oncologic emergencies. In B. Gobel, S. Triest-Robertson, & W. Vogel (Eds.), Advanced oncology nursing certification review and resource manual (2nd ed., pp. 693-736). Oncology Nursing Society.
- National Cancer Institute. (2019). Superior vena cava syndrome. https://www.cancer .gov/about-cancer/treatment/side-effects/cardiopulmonary-hp-pdg#_97
- Shelton, B.K. (2018). Superior vena cava syndrome. In M. Kaplan (Ed.), Understanding and managing oncologic emergencies: A resource for nurses (3rd ed., pp. 561–587). Oncology Nursing Society.

Prepared by Kathleen Sacharian, MSN, CRNP, AOCNP®, at the Oncology Nursing Society and printed by the Clinical Journal of Oncology Nursing (https://doi.org/10.1188/20 .CJON.712). Check your facility's policies, procedures, and/or standards of practice before applying this to practice. For more information, email pubCJON@ons.org