

Superior Vena Cava Syndrome

KEY POINTS

- ➔ A syndrome of dyspnoea, headache, swelling of the face, neck, and upper limbs should be an alert to this possible diagnosis
- ➔ Due to compression or obstruction of the superior vena cava
- ➔ Can sometimes be life-threatening, but usually occurs with a gradual increase in signs and symptoms
- ➔ Common symptoms include dyspnoea, facial oedema, headache, cough, chest pain, and visual disturbances
- ➔ Symptoms are often affected by position (e.g. symptoms are slightly better when sitting up)

ASSESSMENT

See comment on page 10



- ➔ Physical examination for facial plethora or cyanosis, proximal vein dilation, oedema of the face, neck, upper chest, and arms
- ➔ Definitive diagnosis requires a CT scan
- ➔ Chest x-ray and point-of-care ultrasound may assist in clinical decision-making when CT is not available
- ➔ Diagnosis can be made clinically if imaging is not available or appropriate for the patient's general condition

MANAGEMENT

- ➔ Elevate the head of the bed
- ➔ A single dose of steroids typically stabilizes the patient prior to any diagnostic procedure
- ➔ **Dexamethasone** should be used in the short term (24-48 hours) and can be sufficient therapy for some patients (**16 mg PO/IV daily**)

➔ Paediatric dosing: **Dexamethasone 0.6 mg/kg/dose IV/PO daily**



➔ Diuretics can help reduce preload (e.g. **furosemide 12-80 mg PO/IV/Subcutaneous daily-BID**)

➔ Paediatric dosing: **Furosemide 0.5-2 mg/kg/dose PO/IV/Subcutaneous q6-24h, dose may be increased by 1-2 mg/kg/dose to achieve desired response (Maximum: 6 mg/kg/dose, 80 mg/dose)**



- ➔ Monitor for electrolyte abnormalities, including hyponatraemia and hypokalaemia, as well as metabolic alkalosis
- ➔ Administer at a maximum of 0.5 mg/kg/min to reduce the risk of ototoxicity
- ➔ Radiotherapy, chemotherapy, and SVC stenting are frequently effective at reducing tumour bulk and external compression of the SVC

Consider if the patient is well enough to benefit



PALLIATIVE TIPS

- ➔ May also be caused by thrombus around a subclavian arterial catheter

REFERENCES

- Esposito KD, Shariff MA, Freiberg A, Evangelista MCA. Superior Vena Cava Syndrome: A Palliative Approach to Treatment. *Cureus*. 2022;14(8).
- Friedman T, Quencer KB, Kishore SA, Winokur RS, Madoff DC. Malignant Venous Obstruction: Superior Vena Cava Syndrome and Beyond. *Semin Intervent Radiol*. 2017 Dec;34(4):398-408.
- Gupta V, et al. Superior vena cava syndrome in children. *Indian J Hematol Blood Transfus*. 2008;24(1):28-30.

REFERENCES continued

- Jain R, Bansal D, Marwaha RK, et al. Superior Mediastinal Syndrome: Emergency Management. *Indian J Pediatr.* 2013;80:55-9.
- Rowell NP, Gleeson FV. Steroids, radiotherapy, chemotherapy and stents for superior vena caval obstruction in carcinoma of the bronchus: a systematic review. *Clin Oncol (R Coll Radiol).* 2002 Oct;14(5):338-351.
- Straka C, Ying J, Kong FM, Willey CD, Kaminski J, Kim DWN. Review of evolving etiologies, implications and treatment strategies for the superior vena cava syndrome. *SpringerPlus.* 2016 Feb 29;5(1):229.