

Superior vena cava syndrome

Superior vena cava syndrome (SVCS) is caused by restriction of blood flow in the superior vena cava. Annual incidence is approximately 5/100 000. Most of the cases are caused by malignant tumors, usually lung cancer. Symptoms include edema of face, neck and upper limbs with often visible distended subcutaneous veins. Other frequent symptoms are shortness of breath, cough and oppression of other organs in mediastinum.

Pathophysiology

The syndrome is caused by reduced blood flow in superior vena cava. The usual cause is pressure on superior vena cava, but also other reasons could be thrombosis or tumor growth in wall of the vessel.

Common causes of restricted blood flow:

- lung tumors (80 % of cases);
- lymphoma;
- mediastinal germ cell tumors;
- metastasis to mediastinum;
- iatrogenic cause: pacemaker electrode, central venous catheter, post-radiation fibrosis;
- infection: secondary mediastinal fibrosis;
- benign mediastinal tumors;
- mediastinal fibrosis;
- sarcoidosis;
- aortic aneurysm.



definition, pathogenesis, symptoms, complications, treatment

Severity depends on the degree of disability and speed of defect development. Collateral vessels can be made when defect is slowly developing, therefore symptoms are less severe. Symptoms are more severe *in patients* with asphyxia, as possible collateral flow is limited.

Clinical manifestation

Edema of face, neck and upper limbs is characteristic sign. Usually accompanied by marked dilatation of the superficial veins. Additionally edema around eyes, conjunctival congestion, chest pain, headache, epistaxis, tinnitus, syncope, cyanosis and vocal cord paresis can be signs of SVCS.

Diagnostics

Clinical signs are so characteristic, that they are sufficient to make a superior vena cava syndrome diagnosis. Subsequently, however, it is necessary to determine the underlying cause. Imaging methods that can capture the tumor mass are mainly used for this purpose. Venography can be used if thrombosis is suspected.

Treatment

The basis of therapy is to treat the primary cause. Symptomatic therapy includes corticosteroids and diuretics. It is hypothesized that this therapy may reduce edema around the tumor.



Superior vena cava syndrome in a person with bronchogenic carcinoma. Note the swelling of his face first thing in the morning (right) and its resolution after being upright all day (left).

Links

Related articles

- Superior vena cava

Bibliography

- STAŇKOVÁ, Y., Vašutová I. and Skičková J .. Upper vena cava syndrome: definition, etiology, physiology, symptoms, diagnosis and treatment. *Internal Medicine* [online] . 2007, vol. 53, no. 11, pp. 1211-1214, also available from < https://www.prolekare.cz/pdf?id=v1_07_11_13.pdf >. ISSN 1801-7592 (tel:1801-7592).

