

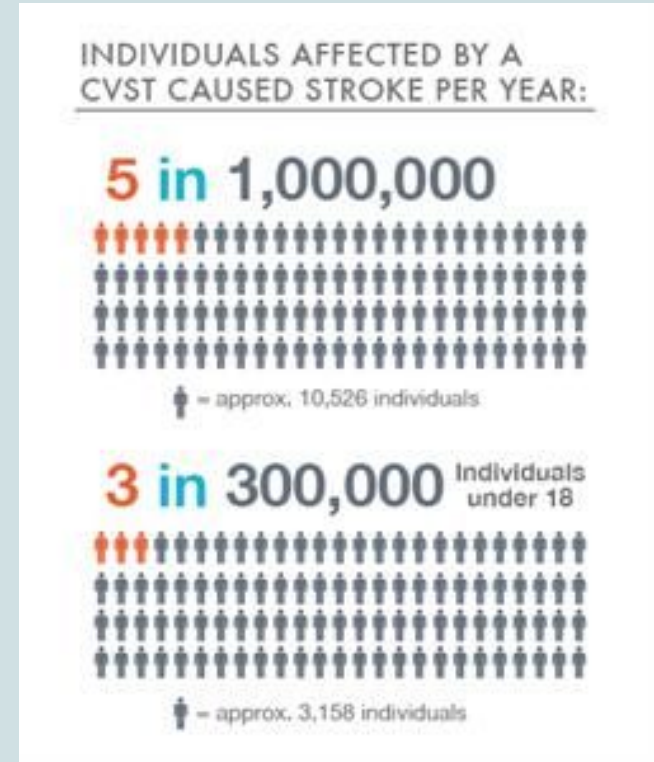
Cerebral Venous Sinus Thrombosis

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Definition

- ❖ Cerebral venous sinus thrombosis (CVST) are blood clots that form in the brain's venous sinuses
- ❖ CVST is known to be a rare form of a stroke
- ❖ It prevents blood from draining out of the brain
- ❖ It can cause blood cells to break and leak blood into the brain tissues
- ❖ Blood leaking into the tissues can also cause a hemorrhage in the brain



Etiology

- ❖ The most common causes are:
 - Medications that contain estrogen such as birth control pills, patch or ring and estrogen replacement therapy
 - Certain medications like chemotherapy drugs
 - Elevated levels of estrogen in pregnancy and post-pregnancy period
 - Cancer
 - Inherited clotting disorders
 - Acquired clotting disorders

Signs & Symptoms

- ❖ Symptoms may vary depending where the blood clot is located
- ❖ These are the physical symptoms that may occur:
 - Severe headache
 - Blurred vision
 - Fainting or loss of consciousness
 - Loss of control over movement of body parts
 - Seizures
 - Coma
 - Speech impairment
- ❖ Recovery will be much easier and more possible the sooner you respond to the symptoms
- ❖ Symptoms will be similar to ones of a stroke

Diagnosis

- ❖ Doctors will typically check medical history and do a physical exam on the patient
- ❖ Doctors will then check on how the blood is flowing in the brain by doing various tests
- ❖ CT or MRI tests are often done to evaluate a stroke or brain bleeds
- ❖ The appropriate test to perform is an MRI venogram or a CT venogram
- ❖ Angiography, ultrasound, and blood tests may also be done
- ❖ Cerebral venous sinus thrombosis can be easily missed if not imaged correctly

Diagnosis

- ❖ Healthcare professionals will have a huge indication or suspicion that a patient may have CVST, if the patient:
 - Has the worst headache ever
 - Has risk factors for blood clots such as being on estrogen or progestin contraceptives
 - Personal or family history of blood clots
 - Known clotting disorder



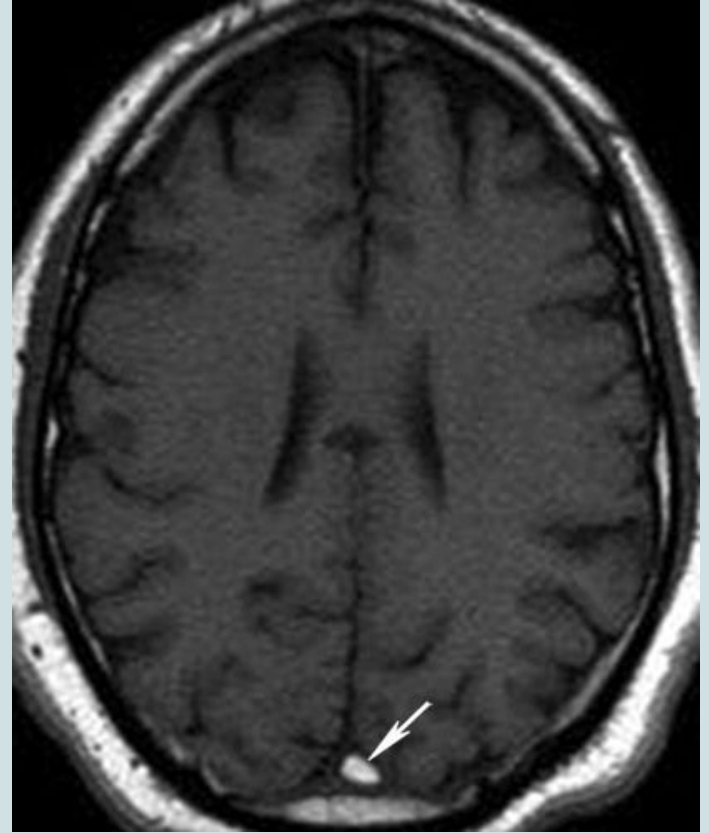
Cross-Sectional Images

- ❖ This is a coronal reformatted CT image of a patient with a superior sagittal sinus thrombosis
- ❖ This image contains a non-enhanced thrombus that is surrounded by enhanced sinus walls and dural cavernous spaces
- ❖ The thrombus extend from the superior sagittal sinus to the right transverse sinus



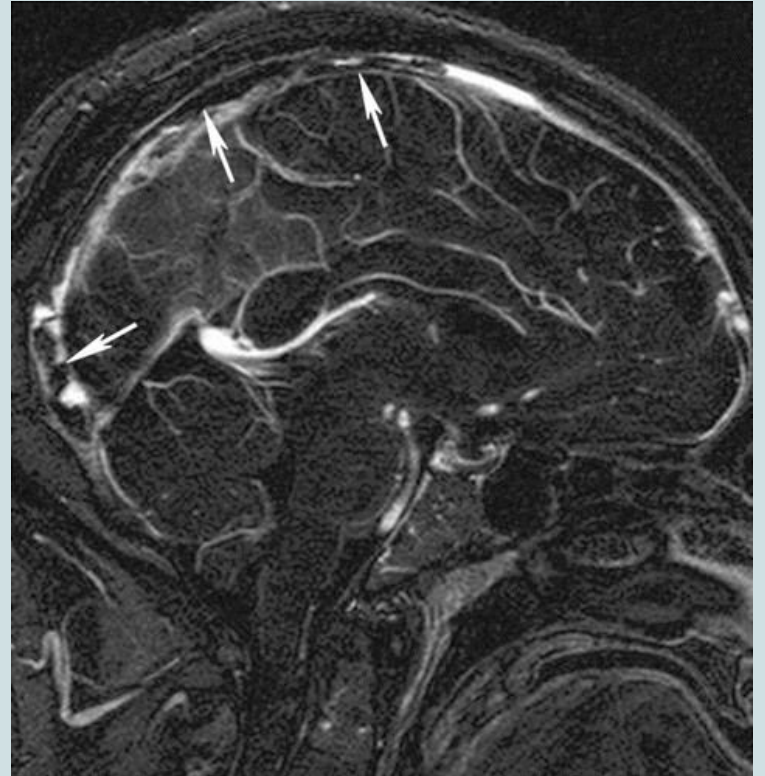
Cross-Sectional Images

- ❖ This image is an axial T1-weighted MRI image from a patient with a subacute thrombus of the superior sagittal sinus
- ❖ The MRI image has an arrow that indicates an abnormal increased signal of intensity in the superior sagittal sinus



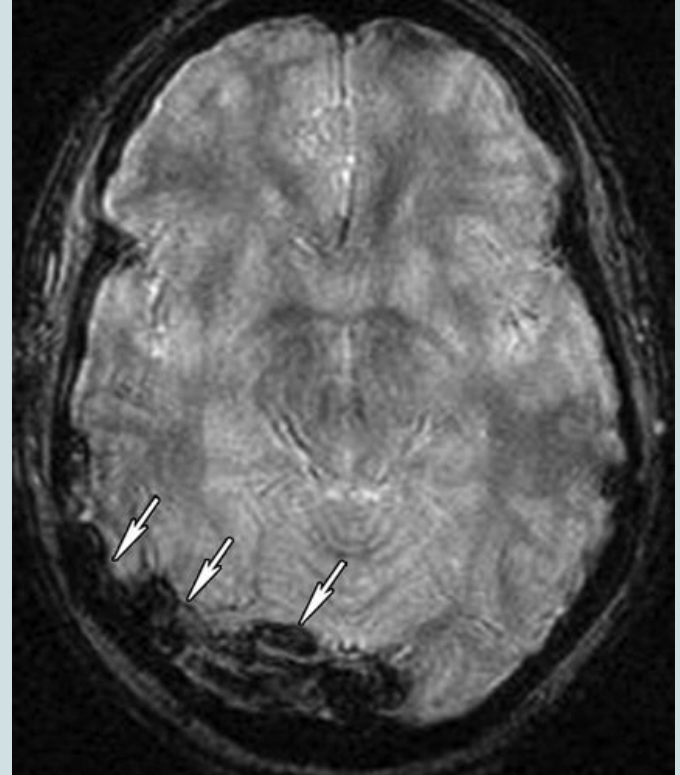
Cross-Sectional Images

- ❖ This is another image taken from the same patient as the last slide
- ❖ This sagittal image from a contrast-enhanced venography shows filling defects due to the thrombus (where all the arrows are pointing to)



Cross-Sectional Images

- ❖ This image is taken from a 27-year-old postpartum patient with a severe headache for 6 days
- ❖ The arrows in the image shows that there has been a large decrease in intensity of signal and an apparent enlargement of the sinus. There was no flow of blood.



Treatments

- ❖ Treatments should be done immediately and must be done in a hospital
- ❖ Patients with severe cases will be admitted into a stroke or intensive care unit
- ❖ Some treatment plans may include:
 - Fluids
 - Antibiotics for any infections that are present
 - Anticoagulants for thinning out blood and to prevent blood clotting
 - Anti-seizure medicine to control any seizures that may have occurred
 - Monitoring and controlling the pressure inside the head
 - Surgery
 - Continue monitoring brain activity
 - Rehabilitation

References

- Cerebral Venous Sinus Thrombosis (CVST). (n.d.). Retrieved November 17, 2020, from <https://www.cedars-sinai.org/health-library/diseases-and-conditions/c/cerebral-venous-sinus-thrombosis-cvst.html>
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