General:
- Although the clinical presentation is highly variable, the diagnosis should be considered in young and middle-aged patients with recent unusual headache or with stroke-like symptoms in the absence of the usual vascular risk factors, in patients with intracranial hypertension, and in patients with CT evidence of hemorrhagic infarcts, especially if theinfarcts are multiple and not confined to the arterial vascular territories. The average delay from the onset of symptoms to the diagnosis is seven days.

MRI:
- The most sensitive examination technique is MRI in combination with magnetic resonance venography. T1-weighted and T2-weighted MRI will show a hyperintense signal from the thrombosed sinuses. The characteristics of the signal depend on the age of the thrombus and are isointense on T1-weighted images during the first five days and after one month.
- The combination of an abnormal signal in a sinus and a corresponding absence of flow on magnetic resonance venography confirms the diagnosis of thrombosis.

CT scanning:
- CT scanning is a useful technique for the initial examination, to rule out other acute cerebral disorders and to show venous infarcts or hemorrhages, but its results can also be entirely normal. High-resolution CT equipment may show the thrombus as a hyperintense signal in a sinus or even in the cortical veins (the "cord sign"). CT venography is a promising new technique for creating images of the cerebral venous system.

Cerebral angiography:
- If the diagnosis is still uncertain after MRI or CT venography has been performed, cerebral angiography may be indicated. - Angiography provides better details of the cerebral veins and hence is useful in the diagnosis of rare cases of isolated thrombosis of the cortical veins without sinus thrombosis. - Angiography also shows dilated and tortuous (“corkscrew”) veins, which are evidence of thrombosis downstream in the sinuses.

Treatment:
- General measures: The combination of acutely increased intracranial pressure and large venous infarcts is dangerous, and patients may die within hours from cerebral herniation. Impaired consciousness and cerebral herniation are associated with a poor outcome, but even patients with these manifestations can make a remarkable recovery.
- The priority of treatment in the acute phase is to stabilize the patient's condition and to prevent or reverse cerebral herniation. This may require the administration of intravenous mannitol, surgical removal of the hemorrhagic infarct, or decompressive hemicraniectomy.
- It is not known whether the administration of corticosteroids in the acute phase improves outcome.

Anticoagulation:
- The most obvious treatment option is anticoagulation with heparin to arrest the thrombotic process.
- However, anticoagulant treatment has raised much controversy because of the tendency of venous infarcts to become hemorrhagic: about 40 percent of all patients with sinus thrombosis have a hemorrhagic infarct even before anticoagulant treatment is started.
- The effect of anticoagulant treatment has been examined in three small, randomized clinical trials.
- A repeated analysis, which was based on the usual scales of stroke outcome, did not show a statistically significant difference between the effect of heparin and that of placebo. Also, the average delay of four weeks from the onset of symptoms to the beginning of treatment was exceptionally long.
- The second study compared the effect of fixed high-dose, subcutaneous nadroparin with that of placebo in 60 patients and found no statistically significant difference. This study was criticized for an imbalance at baseline, which may have favored the placebo group.
- The third study compared the effect of intravenous unfractionated heparin with that of placebo in 57 women from India who had puerperal sinus thrombosis but in whom the diagnosis had not been confirmed by MRI or angiography.
- A meta-analysis of these studies showed a nonsignificant reduction in the pooled relative risk of death or dependency of 0.46 (95 percent confidence interval, 0.16 to 1.31).
- A new trial with enough power to demonstrate a similar effect of treatment would require the recruitment of 200 patients. With a rare disease such as sinus thrombosis, this would be challenging but feasible.
- Most recently, a new treatment with heparin as soon as the diagnosis is confirmed, even in the presence of hemorrhagic infarcts. This treatment was applied to 9 percent of the 624 patients in a recent prospective study. In this study, 79 percent of the patients recovered, 8 percent had minor handicaps, 5 percent were severely handicapped, and 8 percent died.
- The optimal duration of oral anticoagulant treatment after the acute phase is unknown. Recurrent sinus thrombosis occurs in 2 percent of patients, and about 4 percent of patients have an extracranial thrombotic event within one year.

Clinical features:
- Usually, vitamin K antagonists are given for six months after a first episode of sinus thrombosis, or longer in the presence of predisposing factors, with a target international normalized ratio of 2.5.

Pathogenesis:
- Endovascular thrombolysis can be attempted with the administration of a thrombolytic enzyme, usually urokinase, intracranially, into the sinus, sometimes in combination with mechanical thrombo-aspiration. Published reports are limited to case reports and uncontrolled studies, from which it is impossible to conclude that the results associated with endovascular thrombolysis are superior to those with systemic heparin.
- Until better evidence is available, endovascular thrombolysis may be applied at centers where the staff have experience in interventional radiology, and this treatment method should be restricted to patients with a poor prognosis.
- Infectious cavernous sinus thrombosis is characterized by headache, fever, and eye symptoms such as orbital edema, proptosis, chemosis, and paralysis of eye movements due to involvement of the oculomotor, abducens, or trochlear nerves.
- Patients with isolated intracranial hypertension have headache but no other neurologic symptoms, with the exception of diplopia due to involvement of the sixth nerve when the intracranial pressure is quite high.
- Funduscopic examination will reveal papilledema. Severe papilledema can cause transient visual impairments, and even permanent blindness, if left untreated.