LATERAL SINUS THROMBOSIS

INDICATIONS AND PATIENT SELECTION

Inflammation of the dural sinuses secondary to otitis media can occur as a result of an adjacent epidural abscess or via direct extension from communicating venous channels between the mastoid and dural sinuses (Fig. 120-4) and may lead to thrombosis. Once the wall of a dural sinus is inflamed, a thrombus may form and can propagate in the lumen of the sinus. In severe cases it can lead to venous hemorrhage and cerebral infarction if collateral drainage is inadequate.

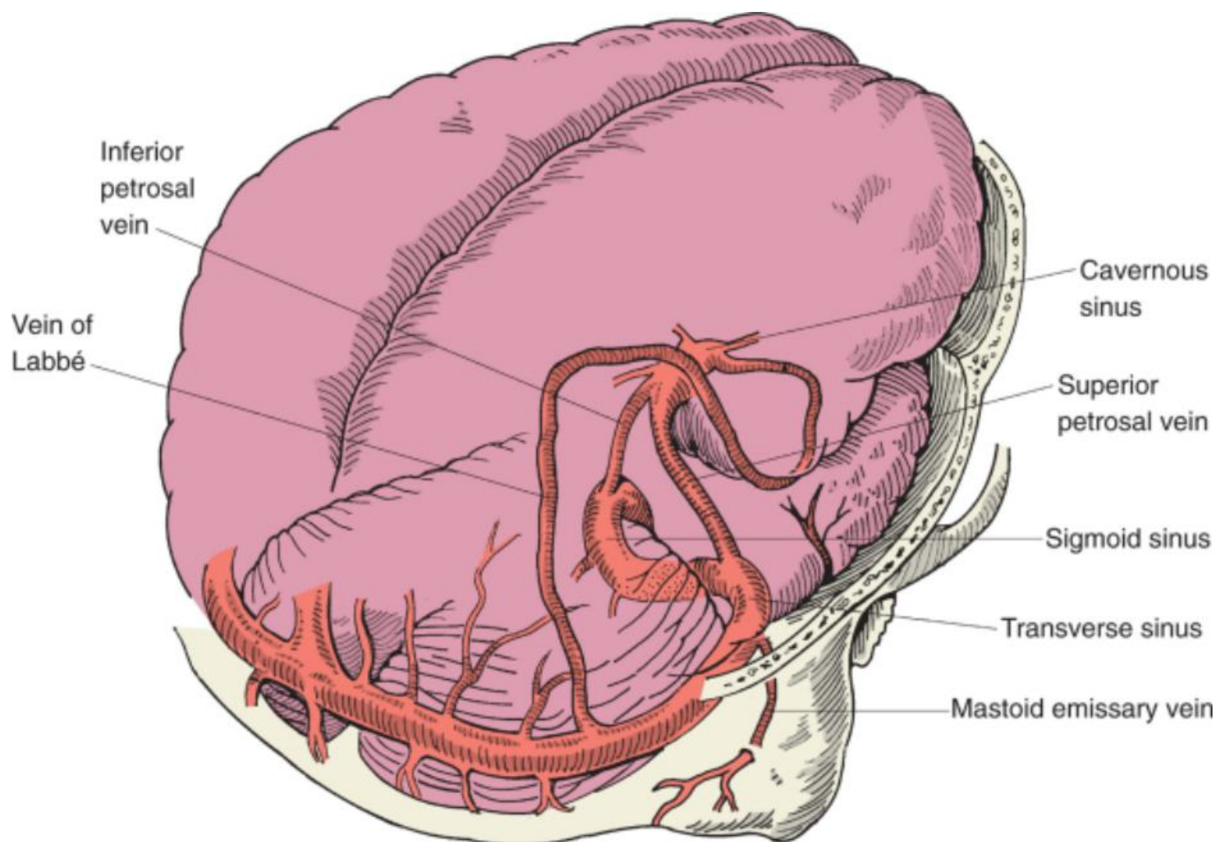

Figure 120-4 Anatomic relationship between the dural sinuses and the temporal bone.

The lateral sinus is the combination of the transverse and sigmoid sinuses. Patients with lateral sinus thrombophlebitis and/or thrombosis (LST) secondary to otitis will typically complain of headache, fever, and photophobia, in addition to symptoms consistent with mastoiditis. Frequently, other intracranial complications such as an epidural or subdural abscess or otitic hydrocephalus coexist.[25] Intramural thrombi can often be diagnosed on contrast–enhanced CT, but MRI and MR venography are considered the “gold standards” for diagnosing and monitoring cerebral venous thrombosis (Fig. 120-5).[26]

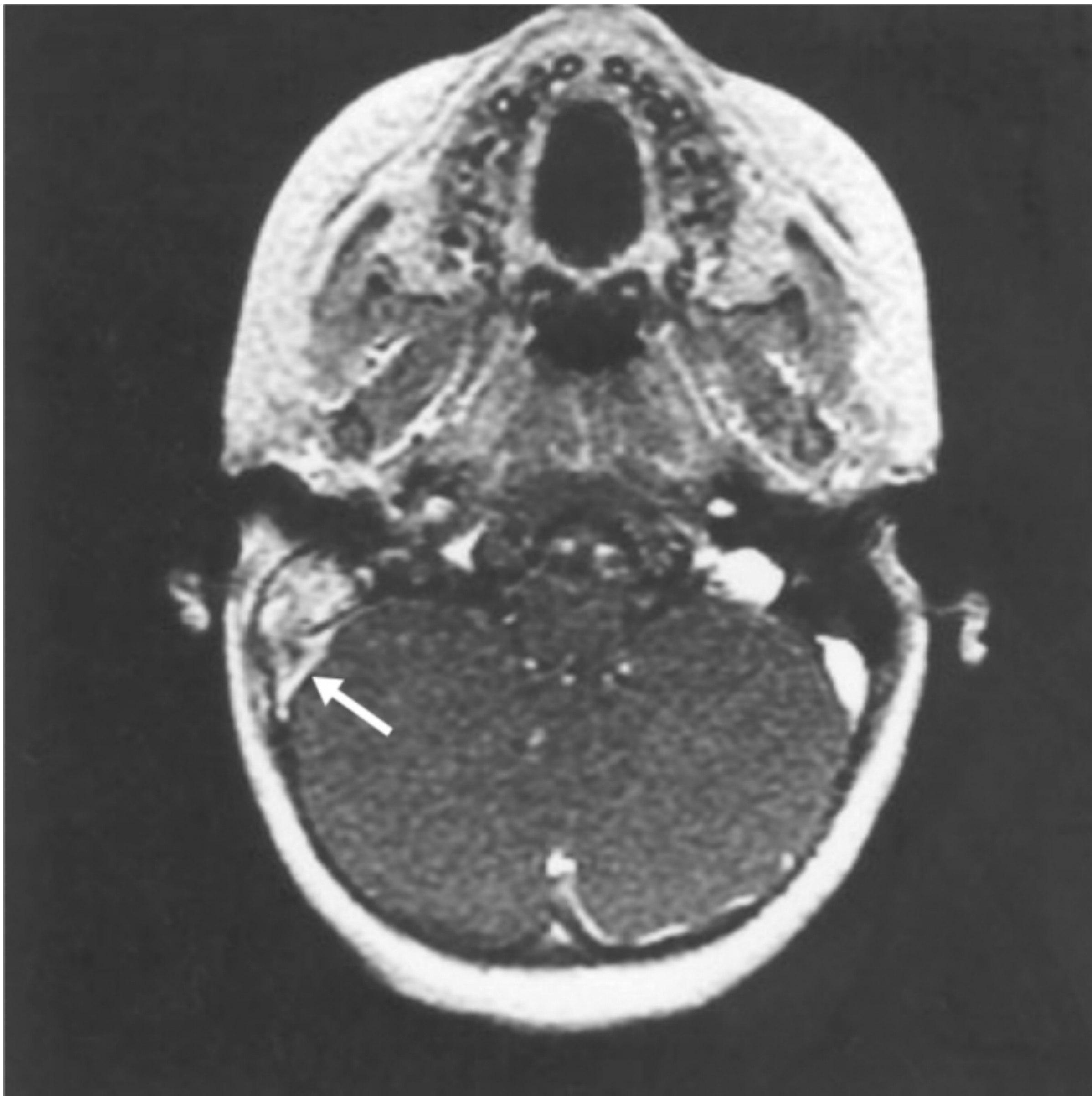

Figure 120-5 Magnetic resonance venogram showing a filling defect in the right sigmoid sinus indicative of thrombosis *(arrow);* the patient also had an epidural abscess secondary to mastoiditis.

A number of recent case series have demonstrated that the distribution of causes of LST is approximately equally divided between acute otitis media and chronic otitis media.[27,28] Other series report an exclusive association with chronic ear disease.[29] Most recent series have included fewer than 15 patients, thus indicating the relative rarity of this complication with effective early treatment of otitis media.

SURGICAL MANAGEMENT

Historically, the standard of care for LST has been, in addition to intravenous antibiotics, a complete mastoidectomy with exposure of the lateral sinus. Needle aspiration of the sinus may be used to determine whether purulent exudate is present (Fig. 120-6). If so, consideration should be given to incision and evacuation of the thrombus (Fig. 120-7). Bleeding from the lateral sinus can be controlled by extraluminal compression with Surgicel (Fig. 120-8). The medial wall of the sinus is maintained intact. Opening of the sinus plus removal of the clot are not necessary unless the sinus is grossly infected.[16] The role of postoperative anticoagulation is unclear.[31] In cases of noncoalescent mastoiditis, a conservative approach, including immediate myringotomy, tube placement, and topical and intravenous antibiotics, is reasonable.[32] The patient is monitored closely, and mastoidectomy and sinus exploration are performed if the patient fails to improve. A thrombosed sinus may recanalize spontaneously over a period of several weeks.[33]

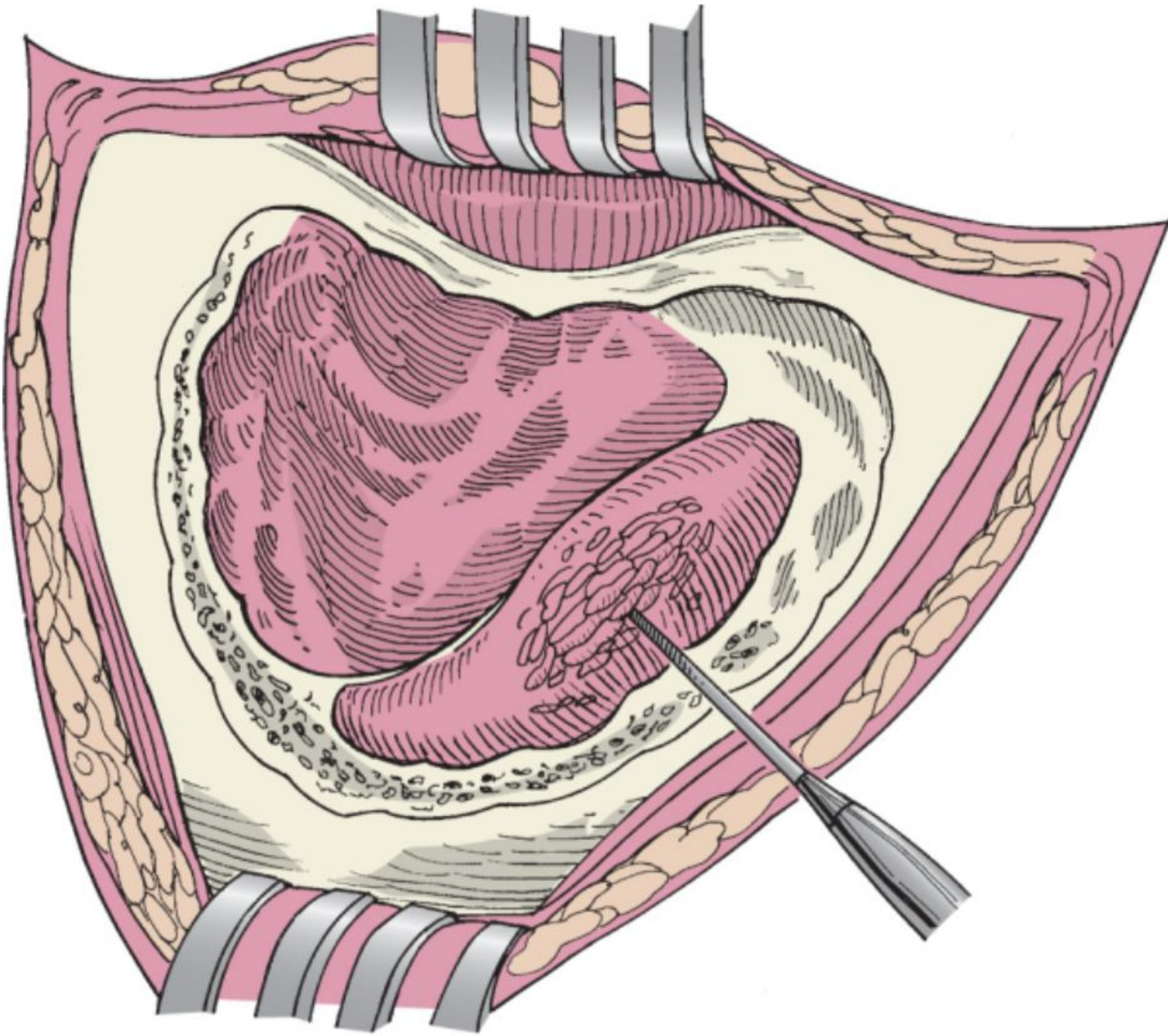

Figure 120-6 Palpation and aspiration of a thrombophlebitic dural sinus.

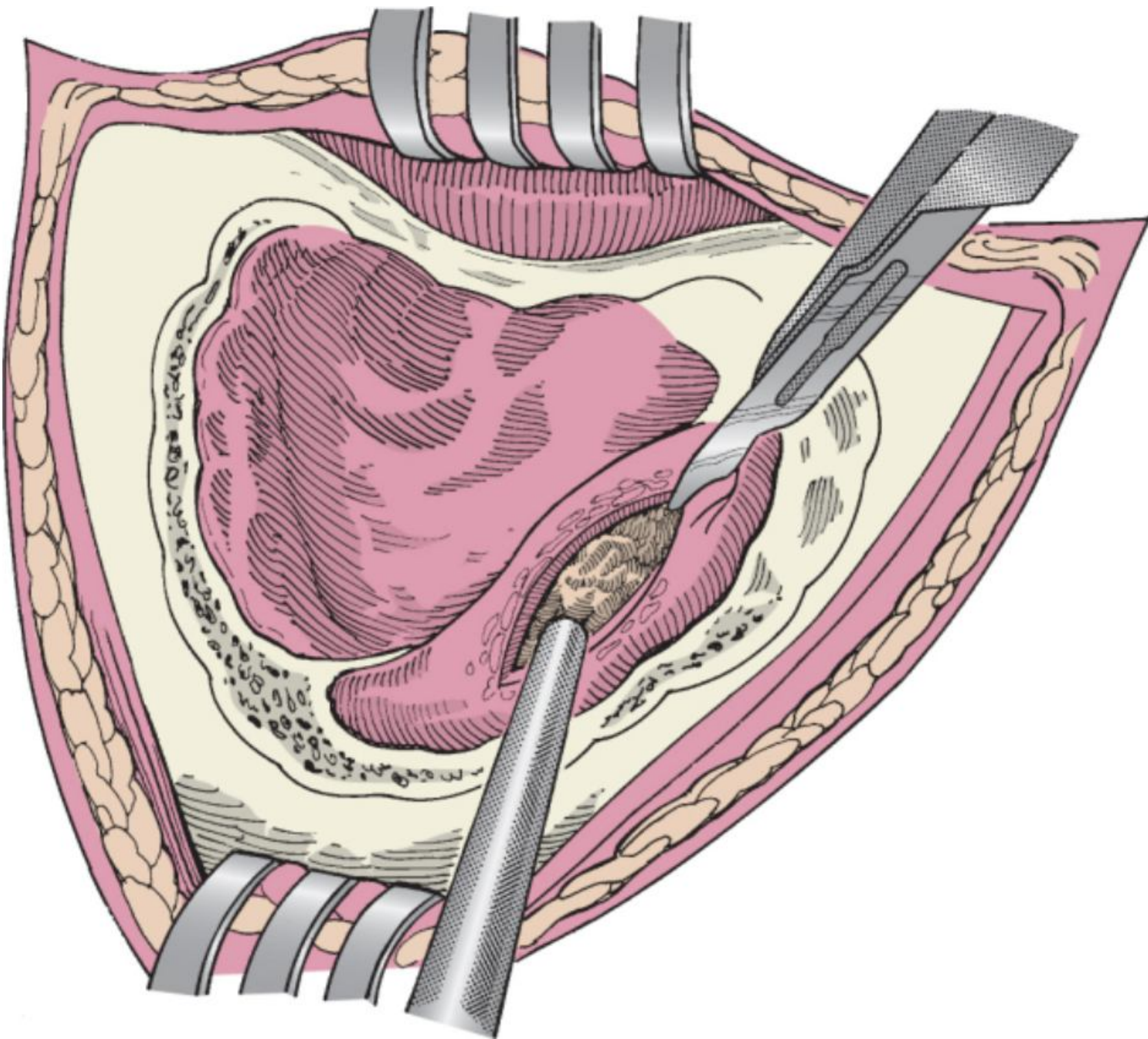

Figure 120-7 Incision and drainage of a thrombophlebitic dural sinus

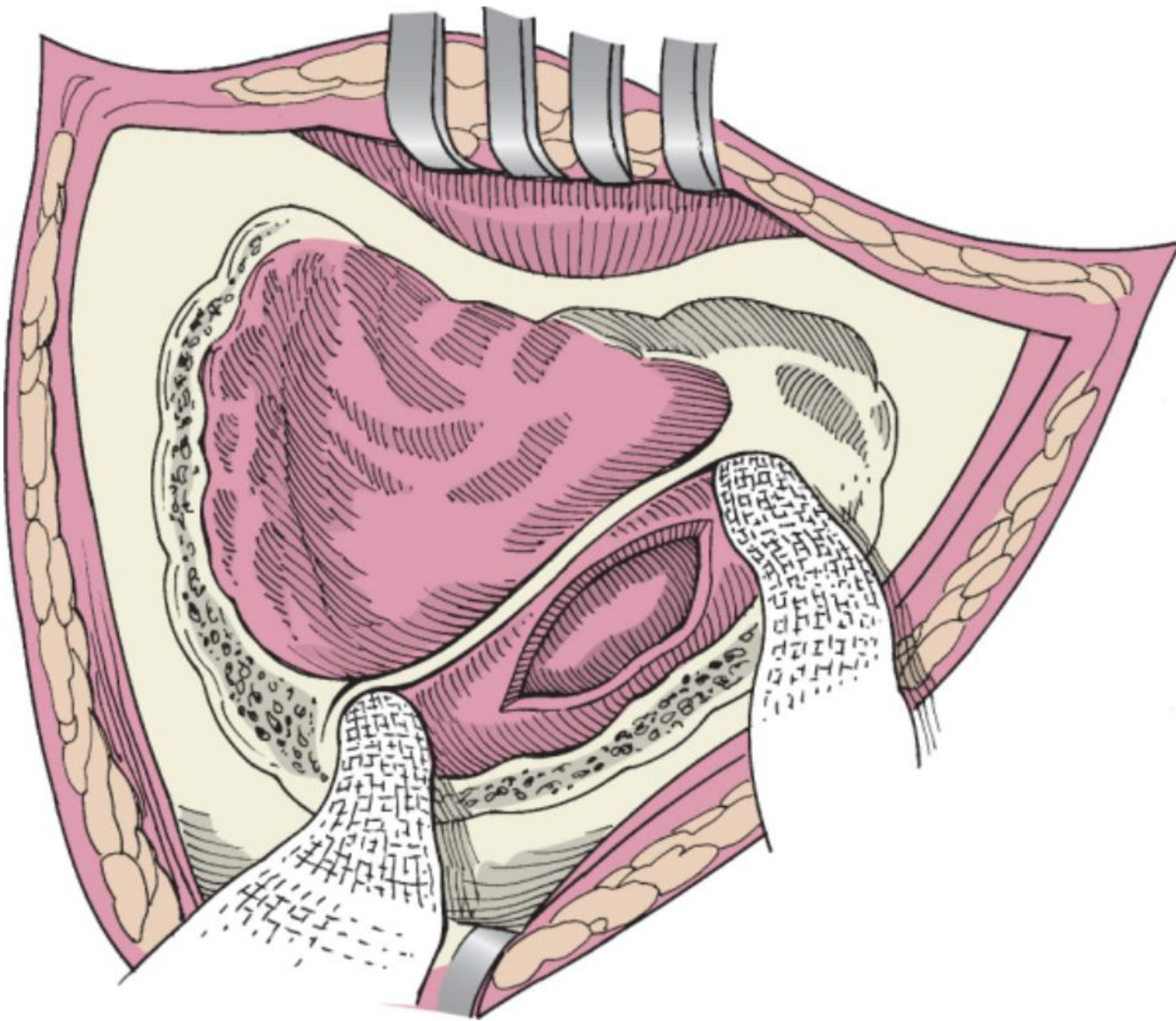

Figure 120-8 Extraluminal packing is used to control bleeding from the dural sinus.

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