



syndromes deserve mention: short-lasting unilateral neuralgiform headache with conjunctival tearing (SUNCT); and *hypnic* headache. The latter refers to multiple episodes of very brief headache that awaken the patient (typically an older woman) from sleep. The syndrome of SUNCT causes multiple very brief (seconds to minutes) episodes of cluster-like headache and autonomic disturbance.

**Chronic daily headache** is defined arbitrarily as headache lasting for more than 4 hours on more than 15 days in the month for more than 3 months. In clinical practice this means that the patient has a headache more often than not. In these cases it is important to establish whether the headache syndrome began as an episodic disorder (as in migraine or tension-type headache) or whether it consists of new daily persistent headaches.

### New Daily Persistent Headache

New daily persistent headache needs to be distinguished from tension-type or migraine headaches that have transformed into chronic daily headache, and necessitates investigation to exclude a secondary cause.

Headache may be a manifestation of underlying structural brain disease (Table 111-2). Headache can be seen in all forms of cerebrovascular disease, including infarction, intracerebral hemorrhage, and SAH, although headache is rarely prominent in cerebral infarction. In contrast, the headache in SAH is usually extremely severe and often described by the patient as “the worst headache of my life.” Nuchal rigidity, third nerve palsy (usually involving the pupil), and retinal, preretinal, or subconjunctival hemorrhages may be found. CT of the head usually shows subarachnoid, intraventricular, or other intracranial blood.

Certain symptoms raise suspicion for a structural brain lesion (Table 111-7).

The patient with headache and fever presents a common diagnostic problem in the emergency department. Neck stiffness is a common symptom. Meningismus is confirmed by eliciting Brudzinski and Kernig signs. Vomiting occurs in about 50% of patients. Suspicion for meningitis should prompt immediate investigation, including a lumbar puncture. If the patient shows focal signs, papilledema, or profound alteration in level of consciousness, CT of the head before lumbar puncture is required to rule out focal disease such as an abscess or subdural empyema. These lesions, however, are rare.

### Acute Sinusitis

Head and face pain is the most prominent feature of sinusitis. Malaise and low-grade fever are usually present. The pain is dull, aching, and nonpulsatile; is exacerbated by movement, coughing, or straining; and is improved with nasal decongestants. The pain

is most pronounced on awakening or after any prolonged recumbency, and is diminished with maintenance of an upright posture.

The location of the pain depends on the sinus involved. Maxillary sinusitis provokes ipsilateral malar, ear, and dental pain with significant overlying facial tenderness. Frontal sinusitis produces frontal headache that may radiate behind the eyes and to the vertex of the skull. Tenderness to frontal palpation may be present with point tenderness on the undersurface of the medial aspect of the superior orbital rim. In ethmoidal sinusitis, the pain is between or behind the eyes with radiation to the temporal area. The eyes and orbit are often tender to palpation, and, in fact, eye movements themselves may accentuate the pain. Sphenoidal sinusitis causes pain in the orbit and at the vertex of the skull and occasionally in the frontal or occipital regions. Given that the trigeminal nerve mediates pain perception from the sinuses, many patients who complain of “sinus headaches” are probably suffering from the trigeminovascular disturbance of migraine, rather than sinusitis. Chronic sinusitis is seldom a cause of headache.

### Brain Tumors

Posterior fossa tumors (particularly of the cerebellum) frequently produce headache, especially if hydrocephalus occurs because cerebrospinal fluid (CSF) flow is partially obstructed. Supratentorial tumors, however, are less likely to cause headache and are more frequently heralded by altered mental status, focal deficits, or seizures. Although increased intracranial pressure is often associated with headache, it is usually not the primary mechanism because uniform pressure elevations do not usually produce distortions of pain-sensitive structures.

### Idiopathic Intracranial Hypertension

Idiopathic intracranial hypertension (IIH), also called *benign intracranial hypertension*, is defined as a syndrome of elevated intracranial pressure without evidence of focal lesions, hydrocephalus, or frank brain edema. It usually occurs between the ages of 15 and 45 years and is more frequent in obese women. The disorder is characterized by headache with features of raised intracranial pressure. The headache is usually insidious in onset, is typically generalized, is relatively mild in severity, and is often worse in the morning or after exertion (e.g., straining or coughing).

At times, patients have visual disturbances, such as restricted peripheral visual fields, enlarged blind spots, visual blurring (*obscurations*), or diplopia secondary to abducens nerve palsies. Funduscopic examination shows papilledema, which is often more impressive than the clinical picture. IIH is usually a benign and self-limited disorder, but it may lead to visual loss, including blindness.

The condition has been associated with drugs—vitamin A intoxication, nalidixic acid, danazol (Danocrine), and isotretinoin (Accutane)—as well as corticosteroid withdrawal and systemic disorders such as hypoparathyroidism and lupus.

CT scans are usually normal but can show small ventricles and an “empty sella” in some cases. CSF opening pressure is elevated, usually in the range of 250 to 450 mm of water, with the pressure fluctuating markedly when monitoring occurs over a prolonged period. Some cases of IIH are caused by cerebral venous sinus

**TABLE 111-7 DIFFERENTIAL DIAGNOSIS OF ACUTE HEADACHE—MAJOR CAUSES**

Migraine	Acute hydrocephalus
Cluster headache	Meningitis or encephalitis
Stroke	Giant cell arteritis (often chronic)
• Subarachnoid hemorrhage	Tumor (usually chronic)
• Intracerebral hemorrhage	Trauma
• Cerebral infarction	
• Arterial dissection (carotid or vertebral)	