

## Chapter 135

# Headaches in the Elderly

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“Old age,” said the poet Bion (300 BC), “is the harbour of all ills.” A merciful exception is headache, which visits the elderly less. The 19<sup>th</sup>-century poet Ralph Waldo Emerson wrote that “at fifty years . . . afflicted citizens lose their sick headaches,” and an eminent clinician, Moritz Romberg (31), stated in the first textbook of neurology (1853) that “hemicrania generally diminishes in advanced age.” Modern epidemiologists agree.

In Waters series (48), whereas 92% of women and 74% of men between the ages of 21 and 34 years had had a headache in the preceding year, the prevalence decreased to 66% and 53%, respectively, in the 55-to 74-year age group, and to 55% and 22% in the over-75-years age group.

### CAUSES OF HEADACHE IN THE ELDERLY

As in the younger age groups, primary headache disorders such as migraine, tension-type headache, cluster headache, and chronic daily headache still account for most of the headaches that afflict the elderly (6,40,45,46). An important difference between the two age groups is that headaches due to other disorders (secondary or symptomatic headaches) are much more common in the aged than in the young, constituting a significant minority (10 to 20%) of cases in the elderly, especially for new-onset headache (22,24). In a recent survey of elderly patients in a headache clinic, onset after age 65 occurred in only 4.8% of those with primary headache disorders, whereas onset after age 65 occurred in 66.7% of patients with secondary headache disorders (24). Table 135-1 lists some of the toxic, metabolic, and structural diseases that may present with headache; all are distinctly more common in older people. One conclusion to be drawn from this is that the clinical approach to headache, always requiring care, requires more attention in the older patient, with correspondingly readier recourse to laboratory investigation and neuroimaging.

This cautious approach is derived from clinic-based studies of patients. To put things into perspective, however, it should be noted that in a recent community-based study (31), secondary headache occurred in only 2.2% of elderly people with headaches.

Although older people are more likely than younger to suffer the various cranial neuralgias, these syndromes seldom are described as “headache” and thus are not discussed here (see Chapters 126 and 127).

### PRIMARY HEADACHE DISORDERS IN THE ELDERLY

#### Migraine

Though migraine attenuates with age, a significant number of the elderly remain troubled by it. Indeed, some (1 to 3%) experience migraine for the first time in their lives after the age of 50 (30,36). The prevalence of International Headache Society (IHS) migraine in the elderly has been variously estimated at between 3% and 11% (29,31,37,46), with more women than men affected and the prevalence declining with advancing age. It is noteworthy that the female:male ratio is around 3:1 in the young and middle-aged population but declines to 2:1 after the age of menopause (23).

The changes in the profile of migraine through the ages have not been fully described (26). Migraine with aura is relatively less prevalent in the aged than in the young in all series, reflecting the well-known clinical observation that people tend to lose their auras as they get older. The converse may occur; that is, patients who have had migraine with aura when younger may lose their headaches as they age and have only recurrent painless auras (49). In a series of headache-clinic outpatients over the age of 60 years, 12% had migraine with aura, and 55% of these had at least some of their visual auras without an accompanying headache (26). These episodic focal disturbances may be confused with transient ischemic attacks (TIAs),

**TABLE 135-1 Causes of Headache in the Elderly**

<b>Primary headache disorders</b>
Migraine
Tension-type headache
Cluster headache
Chronic daily headache
Hypnic headache
SUNCT syndrome
<b>Secondary headaches</b>
<i>Toxic and metabolic headaches</i>
Medications (including medication-overuse headache)
Chronic respiratory disease
Hypercalcemia
Hyponatremia
Chronic renal failure
Anemia, polycythemia
<i>Structural lesions</i>
Cervical spondylosis and disc disease (vs. cervicogenic headache)
Giant cell arteritis
Atherothrombotic cerebrovascular disease
Severe hypertension
Intracranial mass lesions, including hydrocephalus and hematomas
Meningeal irritation: hemorrhage and infection

SUNCT, short-lasting, unilateral, neuralgiform headache with conjunctival injection and tearing.

particularly if the prior history of migraine has not been elicited. Fisher described these episodes as late-life migraine accompaniments (12) and provided guidelines that may help to distinguish these essentially harmless transient episodes from the more ominous TIAs. Recently, it was reported in a subgroup of patients with presumed TIA that there is a benign short-term course if the attacks are multiple, brief (duration of spell  $\leq 10$  minutes), and characterized by sensory symptoms (19); these may be not TIAs, but migraine accompaniments.

Various conditions that occur in old age, or sometimes the medications taken for these conditions, may aggravate migraine or make it more resistant to treatment. For example, high blood pressure may make coexistent migraine difficult to treat (44). Some of the drugs used to treat hypertension are useful as migraine prophylactics (e.g., beta-blockers, calcium channel blockers, and angiotensin-II-receptor blocker [43]), but others (e.g., methyldopa) may make migraine worse. Ischemic heart disease, common in the elderly, does not in itself worsen migraine, although very rarely it may present primarily as migrainelike headache (21), which is usually accompanied by less conspicuous chest or left arm discomfort. The second edition of the International Classification of Headache Disorders (ICHD-II) (18) calls this "cardiac cephalgia." These cardiac headaches tend to clear with nitrates, whereas in the much more typical situation, a patient with anginal chest pain who takes nitrates will precipitate a headache that, in the case of a migraine sufferer, may be overtly migrainous.

Treatment of migraine thus presents special problems in the elderly. Coincidental disease may prohibit the use of some migraine medications. For example, vascular disease in general contraindicates the use of ergotamine, dihydroergotamine, and the triptans; depression militates against the use of beta-blockers and flunarizine; the beta-blockers and calcium channel blockers should not be used in heart failure; and prostatism, glaucoma, and heart disease make the use of tricyclics problematic. Moreover, even when these contraindications do not exist, older patients are more likely than younger patients to develop adverse effects from migraine medications. For example, the elderly are especially prone to have sedation and confusion from tricyclics, and their decreased renal reserve makes them vulnerable to kidney failure with nonsteroidal anti-inflammatory drugs (NSAIDs).

Managing the older migraine patient calls for thorough familiarity with that individual's general health status, a wide practical knowledge of pharmacology, and, most important, caution (10).

### Tension-Type Headache

The prevalence of tension-type headache also declines in the elderly, but not nearly as much as migraine. In community-based surveys of the elderly using the IHS criteria, the prevalence of tension-type headache ranged from 35 to 44.5% and was higher in women (31,46). Many more people had the episodic type than the chronic type. A clinic-based study in Spain reported that the most common diagnosis for headache as both the initial and main complaint in the elderly was tension-type headache (43%), possibly chronic tension-type headache (30). While most of the aged who have tension-type headache have had it since youth or middle age, they begin for the first time after the age of 50 in about 10% of tension-type headache patients (20); when this occurs, a special search should be made for concomitant and often masked depression (7,15,25,40,47).

Even in apparently nondepressed people with tension-type headache, tricyclic antidepressants are useful in treatment, although in the elderly there may be increased contraindications to these drugs and more adverse effects from them.

### Cluster Headache

The elderly with cluster headache usually have had it since youth or middle age (mean age of onset 30 years [3]), but they can begin for the first time after the age of 65 (24,42). Cluster headache is quite uncommon in random population surveys of the healthy elderly (37), but in a study of elderly patients presenting to a major headache clinic (39), it accounted for 4% of that population, suggesting that when it does occur it may be a severe problem.

As with migraine and tension-type headache, the treatment of cluster headache in the elderly is complicated by

the specters of comorbid diseases and increased liability to adverse effects. Although probably the most effective treatment for the individual attacks of cluster headache, triptans in a formulation suitable for this purpose must be used with great caution in the elderly and only after excluding cardiovascular disease, a process that substantially reduces the number who can take these medications. Oxygen inhalation, although safer, is less effective. All of the prophylactic medications can cause special problems in the elderly, but of these, verapamil is probably the least dangerous.

### **Chronic Daily Headache**

Chronic daily headache is associated with high rates of medication overuse, depression, and disability. Two epidemiological studies (31,45) conducted in the elderly using Silberstein's criteria (38) revealed prevalences (3.9% and 4.4% ) similar to those in the general population, suggesting that the prevalence of chronic daily headache does not decrease with age. Chronic migraine and chronic tension-type headache were the two most common subtypes in the community and in the clinic-based studies (30,31,45). Without effective treatment, chronic daily headache persisted in two thirds of elderly patients at 2- and 4-year follow-ups (45). No papers addressed the treatment of chronic daily headache in the elderly, but presumably the principles of withdrawal of overused medications and addition of prophylactic agents apply (see Chapters 84,118,133).

### **OTHER PRIMARY HEADACHES IN THE ELDERLY**

Hypnic headache has a mean age of onset of 63 years (12), and SUNCT syndrome (short-lasting, unilateral, neuralgiform headache with conjunctival injection and tearing), while usually beginning around age 50 years, not infrequently begins after the age of 65 (8). It is important to not confuse SUNCT's ultra-short paroxysms of severe pain with trigeminal neuralgia, a common problem in the elderly. (For details on these rare headaches, see Chapters 101 and 99, respectively.)

### **SECONDARY HEADACHES IN THE ELDERLY**

#### **Hypertension and Cerebrovascular Disease**

The elderly are prone to hypertension and to atherosclerotic and hemorrhagic cerebrovascular disease. Both may, in some circumstances, produce headache. (Refer to Chapter 109 for details.) Remember that both are common causes of new-onset headaches in the elderly.

Temporal (or giant cell) arteritis is almost unheard of in the young but becomes increasingly common with advancing age, so much so that it becomes one of the major considerations in any patient who presents with headache onset after the age of 50 years. (See Chapter 111 for details.)

### **Intracranial Lesions**

The incidence of intracranial disease increases with age. This holds true for metastatic tumors, some primary brain tumors, communicating hydrocephalus, and, especially, chronic subdural hematomas. The onset of headaches associated with these conditions may be quite insidious and the headaches themselves quite nonspecific, and, especially with the more slowly evolving lesions, the neurologic examination may be normal. A high index of suspicion is necessary when dealing with recent-onset headaches in the elderly, and there should be little hesitation about resorting to imaging procedures. This is not to suggest that mass lesions are a common cause of headaches in the elderly—in fact they are rare—but they must not be missed.

### **Diseases of the Neck, Eyes, and Teeth**

Cervical spondylosis increases with age, and some authorities claim that it is one of the most common and important causes of headache beginning in and after middle age (24). Others, pointing to the fact that most people over the age of 50 have some radiologic evidence of cervical spondylosis but only a few have symptoms, disagree (1), holding that the majority of headaches occurring in those with cervical spondylosis are tension-type headaches. The fact that the treatments for cervical spondylosis and tension-type headache may be similar (analgesics, NSAIDs, rest, physiotherapy) does nothing to resolve the issue.

Temporomandibular joint disease also is said to produce headaches in the elderly, especially in those in whom loss of teeth has led to misalignment of the jaw. Again, however, there is dispute.

Glaucoma, common in the elderly, is alleged to produce headaches, although it is doubtful that this occurs in the absence of a red eye.

### **Metabolic Headaches**

Many diseases of the aged incorporate metabolic aspects that may cause headaches. For example, chronic obstructive lung disease produces hypercarbia and hypoxia, both of which, through increasing cerebral blood flow, may produce dull diffuse throbbing headaches. Often, because of decreased ventilatory efficiency through the night, these headaches are particularly evident first thing in the morning and tend (like the headaches of hypertension and increased intracranial pressure) to clear as the patient gets up and about. These headaches may be aggravated by the secondary polycythemia sometimes present in chronic

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respiratory disease. Also, many of the bronchodilators and some of the antibiotics prescribed for these patients may precipitate or aggravate headaches.

Similar dull diffuse headaches may attend anemia of any cause, provided that the anemia is profound enough. Chronic renal failure, sometimes because of the associated anemia but more often for unknown reasons, may be associated with dull headaches; dialysis, of course, may produce headaches, likely through osmotic mechanisms.

Hypercalcemia, usually associated in the elderly with malignancy (often myeloma), may cause headaches, as may hyponatremia.

Parkinson disease, a neurodegenerative disorder believed to be mediated by metabolic factors, has been found by some workers (27) to be associated in about a third of cases with a nondescript dull headache of unknown pathogenesis; it sometimes clears with levodopa treatment.

**Drug-Induced Headache and Medication-Overuse Headache**

The illnesses that attend old age sometimes require medication, some of which can cause headaches (2). Table 135-2 lists some of these. These drug-induced headaches are usually mild to moderate, diffuse, at times throbbing, and of variable duration; in short, they are totally nonspecific. They are also quite common. Many patients do not regard over-the-counter drugs as “real medications” because they are not prescribed, and will not mention them unless asked. Contrary to common belief, herbal remedies are not always harmless, and some (for example, *Chionanthus vir-*

*ginicum L.* and *Robinia pseudoacacia L.*, taken for liver disease and constipation, respectively) may cause headache. Also, many patients do not know that caffeine and alcohol are pharmacologically active and can, in either the toxic or withdrawal mode, cause headaches. When dealing with mysterious headaches in any age group, but especially the elderly, it is often useful to have the patient stop taking any medication that is not absolutely necessary.

The elderly suffer the same analgesic, ergot, and triptan rebound headaches that beset the younger age groups. In two epidemiologic studies done in the elderly, the estimated prevalence of medication-overuse headache was 1.0% and 1.7% (31,45). Moreover, the presence of medication overuse was the most important poor prognostic factor for elderly chronic daily headache; without withdrawal of overused medications, the headaches could not be controlled by preventive medications. When withdrawing the elderly from these substances, it is prudent to do so gently because the aging cardiorespiratory system can be quite intolerant of acute withdrawal symptoms.

**PSYCHIATRIC COMORBIDITY**

Community-based studies report a link between headaches and depression in the elderly (9,15,47). Somatic symptoms are an important component in many theoretical conceptualizations of depression in the elderly. It has been suggested that old people underreport cardinal depressive symptoms; they report more somatic symptoms than cognitive or affective symptoms (25). Therefore, an elderly patient’s complaint of a headache might herald a hidden depression. In addition to the basic biochemical mechanisms (5,28), disruption of living caused by chronic pain can be an important factor in depression in the elderly (47). A clinic-based study found a high psychiatric comorbidity in elderly patients with migraine: anxiety (44%), depression (39%), and sleep disorders (41%) (26). Therefore, routine evaluation of psychiatric comorbidity in elderly patients with headache is warranted. Careful treatment of both headache and depression with the newer antidepressants may produce good results with few side effects.

**APPROACH TO THE OLD PERSON WITH NEW HEADACHES**

Most old patients with headaches have had them since their youth. It is distinctly unusual for primary headache disorders such as migraine, tension-type headache, and cluster headache to begin de novo after the age of 60. Therefore, old people with new headaches are more likely than younger patients to have a structural, metabolic, or psychiatric cause. They are also much more likely than younger patients to harbor “coincidental” diseases that can

**TABLE 135-2 Medications Causing Headaches in the Elderly**

Disease	Medications
Central nervous system	Sedatives (barbiturates, benzodiazepines, alcohol, hypnotics) Stimulants (caffeine, methylphenidate)
Cardiovascular	Antiparkinson (levodopa, amantadine) Vasodilators (nitroglycerin, isosorbide dinitrate, dipyridamole, nicotinic acid) Hypotensives (atenolol, nifedipine, methyldopa, reserpine, enalapril) Antiarrhythmics (quinidine, digoxin)
Musculoskeletal	Nonsteroidal anti-inflammatory drugs
Gastrointestinal	H <sub>2</sub> blockers (ranitidine, cimetidine)
Respiratory	Bronchodilators (theophylline, aminophylline, pseudoephedrine)
Infections	Antibiotics (trimethoprim-sulfamethoxazole, tetracyclines)
Oncologic	Chemotherapeutics (taxoxifen, cyclophosphamide)
Reproductive	Hormones (estrogens) Erectogenic agents (sildenafil)

confound diagnosis and therapy of their headaches. Accordingly, older headache patients require special care, which includes readier than usual recourse to investigations, special awareness of the patient's general medical condition and of psychiatric comorbidity, and extra caution with medications.

Many older patients are on a host of medications for various conditions and symptoms. Some of these drugs may contraindicate some effective headache medications, effectively blocking therapy. Others may actually produce or worsen headache. In dealing with this pervasive polypharmacy, two principles are useful:

1. Ruthlessly discontinue any medication that is not clearly seen to be either relieving a significant symptom or prolonging life.
2. Select for headache treatment medications that can serve two purposes—for example, use a beta-blocker to treat both migraine and hypertension or use an antiepileptic drug for both mood stabilization and migraine.

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