

Alert Dental Professionals Can Save a Patient's Eyesight

Jaw pain, headaches, chewing fatigue, or a swollen temporal artery can all point to the presence of temporal arteritis, an autoimmune disease, which, if untreated, can cause permanent blindness.

Temporal arteritis (also called giant cell arteritis) is the most common form of vasculitis. For a yet-unknown reason, the body's immune system attacks and inflames the linings (internal elastic lamina) of large- or medium-sized arteries, especially the temporal artery. Multinucleated giant cells are often seen when biopsied segments of the temporal artery are viewed under a microscope.

Demographics

Age. Nearly all persons with temporal arteritis are over age 50. The average age at onset is 72 years.

Gender. Women are two to three times more likely to develop the disease than men.

Genetic predisposition. Some researchers have suggested a genetic predisposition because the disease often occurs in first-degree relatives (parents, siblings, children).

Incidence. In the United States, the occurrence of temporal arteritis ranges from 10 to 50 persons in 100,000. Internationally, incidence rates are highest in northern European countries.

Classification Criteria

Clinical suspicions of temporal arteritis are based, in part, on the American College of Rheumatology criteria shown in the table.

American College of Rheumatology Criteria for Classification of Temporal (Giant Cell) Arteritis
<p>Three of the following five items must be present:</p> <ul style="list-style-type: none"> Onset of symptoms or findings at age 50 or older. New-onset or unusual type of localized head pain. Temporal artery tenderness to palpation, or decreased temporal arterial pulsations unrelated to arteriosclerosis of cervical arteries. An erythrocyte sedimentation rate greater than 50 millimeters per hour, determined by the Westergren method. A temporal artery biopsy showing vasculitis characterized by a predominance of mononuclear cell infiltrates or granulomatous inflammation, usually with multinucleated giant cells.

Adapted from: Hunder GG, Bloch DA, Michel BA, et al. *Arthritis and Rheumatism*. 1990;33:1122-1128. www.rheumatology.org

Symptoms

The symptoms of temporal arteritis are usually caused by inflammation and reduced flow in arteries supplying blood to the head, eyes, and optic nerves.

Most feared complication:

- Blindness.** This is caused by necrosis of the posterior ciliary branch of the ophthalmic artery, which leads to ischemic optic neuritis. With prompt diagnosis and treatment of temporal arteritis, blindness is usually preventable (see Treat Immediately: Prednisone). If untreated, up to 50% of patients have sudden, painless, permanent vision loss that is unilateral initially and becomes bilateral within days or 2 to 3 weeks.

Classic symptoms.

Although variable, these can include:

- Facial pain or fatigue in the masseter and temporalis muscles** that tends to occur when patients are talking or chewing (often called "jaw claudication"), but resolves with rest. About 65% of patients with temporal arteritis report this symptom. Patients may also report tooth, tongue muscle, lower lip, throat, and/or neck pain. Although temporomandibular joint (TMJ) disorders, dental pathology, and migraine headaches can cause some of these symptoms, dental professionals should first consider the possibility of temporal arteritis because of the need for immediate treatment of this disease.
- Headache.** This tends to be new-onset, unilateral headache in the temporal region, but it may also be diffuse or bilateral.
- Mild fever** of unknown origin.
- Pain and stiffness** in shoulders and hips, especially in the morning. These symptoms also occur in patients with polymyalgia rheumatica, which can occur with or without temporal arteritis.
- Vision blurring, dimming, and/or loss.** Although some patients have only transient vision loss, permanent blindness is common (see Blindness). Eye examinations may show a pupil that dilates in response to bright light and a pale, swollen optic nerve when the eye is dilated.

Other possible symptoms.

Although variable, these can include:

- Anorexia and weight loss.
- Arm pain during exercise.

- Dry cough.
- Depression.
- Double vision and/or drooping eyelids.
- Scalp pain (sometimes described as jabbing or burning) that can preclude combing of hair or wearing of eyeglasses.

Diagnosis

Dental professionals who suspect temporal arteritis should immediately refer the patient to a physician or, if symptoms are severe, an emergency room.

Patient history and physical examination. Physicians should review all of the patient's symptoms for the preceding 2 or 3 months. When examining patients with temporal arteritis, physicians often detect a swollen, nodular temporal artery on one side of the scalp.

Biopsy of the temporal artery. This is the definitive diagnostic test for temporal arteritis. Before performing this biopsy, surgeons ensure that the patient's brain does not depend on the temporal artery for blood supply (this can occur if the carotid artery is blocked, as it is in some elderly patients). When performing the temporal artery biopsy, the surgeon removes a segment of the temporal artery from under the scalp for examination under a microscope (when specific areas of arterial tenderness or abnormal appearance are present, the segment can be less than 3 centimeters; otherwise, a 3- to 5-centimeter segment is usually removed). A few patients have false-negative biopsies, because the disease's arterial involvement can be patchy. When results are negative, the surgeon may perform a biopsy of the temporal artery on the other side of the head, or an angiography (which, however, poses more risks).

Blood tests. Because many patients with temporal arteritis have an elevated erythrocyte sedimentation rate (ESR) indicating active inflammation, physicians should immediately order this test when suspecting the disease. Other diseases can also cause a high ESR (e.g., chronic infections, diabetes mellitus, myeloma or other cancers, and bacterial endocarditis), and these should be quickly ruled out without delaying temporal arteritis treatment.

When ESR tests are negative, but patients' medical histories and physical examinations suggest temporal arteritis, physicians should immediately arrange for a temporal artery biopsy (*see above*). They may also order a serum C-reactive protein (CRP) test, because some patients with active temporal arteritis have elevated CRP test results.

Treat Immediately

With prompt, appropriate therapy, temporal arteritis is controllable. When physicians strongly suspect the disease, treatment with high-dose corticosteroids should be started while awaiting biopsy results.

Prednisone (a corticosteroid). Typically, treatment begins with 40 to 60 milligrams of prednisone taken orally each day; with this dosage, patients usually have improvement of most symptoms in a few days. Based on the patient's response to prednisone treatment, the dosage can be tapered to a maintenance dose that nearly all patients will require for 1 to 2 years or longer. Blindness that is present at the time of diagnosis is usually irreversible; however, if it is only in one eye, prednisone treatment can reduce the risk of vision loss in the other eye.

Methylprednisolone sodium succinate. For patients already having some visual problems, physicians may begin treatment with 250 milligrams of methylprednisolone, administered intravenously every 6 hours for 3 to 5 days. Afterward, the patients are switched to oral prednisone therapy.

Nonsteroidal medications. Methotrexate, azathioprine, and dapsone have been used for patients who do not respond to prednisone treatment or who have unacceptable side effects from corticosteroids.

Prognosis

For patients with promptly diagnosed and treated temporal arteritis, long-term survival is usually the same as for the general population. Typically, symptoms do not recur after patients have taken a full course of steroid treatment. However, if a relapse occurs, patients should be advised to see their physicians immediately.

References

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