

Hypertrophic Osteopathy in Dogs

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BASIC INFORMATION

Description

Hypertrophic osteopathy (HO) is a disease of older and sometimes middle-aged dogs. HO usually accompanies cancerous conditions, such as lung, esophageal, and bladder tumors. It may also arise with other conditions, such as heartworm disease, heart valve infection (endocarditis), congenital heart defects (patent ductus arteriosus), and granulomatous diseases. The condition begins in the paws and lower legs and progresses upward over time. The disease was formerly known as *hypertrophic pulmonary osteoarthropathy* (HPOA). When it occurs in the presence of cancer, it is termed a *paraneoplastic syndrome*.

Causes

The cause of HO is unknown but is suspected to be an increase in nerve-controlled blood supply to the outer covering of the bone (periosteum). The increased blood flow to the periosteum results in the production of new bone and stretching of the periosteum. Stretching of the periosteum is very painful.

Clinical Signs

Lameness in one or more legs is the most common sign. Often, all four limbs are involved to one degree or another. The legs are often swollen, warm, and painful. The dog may be lethargic and may have other signs associated with the primary, underlying condition.

Diagnostic Tests

Palpation (pressing with the fingers) of the shafts (diaphyses) of the bones results in a marked pain response. X-rays of the bones demonstrate production of new bone along the diaphyses and

swelling of the nearby soft tissues. The process begins on the paws (metacarpal and metatarsal bones) and progresses up the legs. Chest x-rays often reveal a lung mass (commonly a tumor). Other tests may be recommended to search for a cause, including laboratory tests, tests for heartworm disease, abdominal x-rays, and an abdominal ultrasound. In some affected dogs, the platelet count is elevated.

TREATMENT AND FOLLOW-UP

Treatment Options

Treatment is directed at the primary cause and can involve surgery to remove lung or bladder masses, chemotherapy, drugs for heartworm disease, and other measures. Analgesic (pain-relief) drugs are indicated until bony changes resolve.

Follow-up Care

The frequency of subsequent visits and testing is determined based on the treatment used for the primary (initiating) cause. X-rays of the bones may be repeated to monitor resolution of the bony changes.

Prognosis

Prognosis depends on the underlying cause and is often poor in the long term, because many cases of HO are associated with malignant tumors. Prognosis for resolution of HO bony changes is excellent if the underlying cause can be successfully treated (such as heartworm disease). With successful treatment of the underlying cause, the pain that occurs with HO quickly improves within 1-2 weeks, but the changes in the bone may take several months to resolve.