

BONE CANCER IN DOGS

Bone tumours affect the larger breeds and are rare in small dogs. Irish Wolfhounds, Great Danes, Rottweilers and German Shepherd dogs seem to be at particular risk. To date, no genetic factors have been identified and it is thought that the growth characteristics of the at-risk breeds are important. Tumours tend to arise in the limb bones with the most active growth. The commonest sites are the distal radius (near the wrist), proximal humerus (near the shoulder), distal femur (above the knee in the back leg), proximal tibia (below the knee) and distal tibia (above the hock).

Presentation

Middle-aged dogs are more commonly affected. The first clinical sign that is noticed is either a sudden onset of lameness or a swelling at one of the characteristic sites. Not all sudden lameness and swellings are bone tumours - joint injuries such as sprains or ruptured ligaments can also cause these clinical signs. Veterinary attention should be sought at an early stage in all cases. With bone cancer, this lameness progresses and the dog may become 'grumpy' and off colour. Bone tumours become intensely painful, so much so that the dog can be severely affected by this. As the tumour grows, the swelling and lameness increase and routine painkillers give little or no relief.

The commonest bone tumour is the type known as osteosarcoma - a malignant tumour arising from the bone cells. Less common tumours include fibrosarcoma (from fibrous tissue), chondrosarcoma (cartilage origin), and haemangiosarcoma (blood vessel origin). X-rays can be used to detect a bone tumour but laboratory examination of a biopsy is necessary to determine the exact nature of the tumour.

Prognosis

The prognosis for any bone tumour is grave. Without treatment, the primary tumour becomes so painful that euthanasia is the only humane option. Almost all bone tumours of the legs are malignant (cancerous) and therefore have the potential to spread. In the case of osteosarcoma, secondary spread to the lungs is an almost certainty but is rarely detected on x-rays at this stage. However, even when the primary tumour is removed, these secondary tumours continue to grow to such a size that severe breathlessness and a general malaise become over-whelming.

Treatment options

There is no simple treatment for bone tumours in dogs. Bone cancer is aggressive and therefore requires aggressive therapy to achieve any chance of success. However, in recent years, progress has been made.

Pain relief is the first and foremost consideration. This can be achieved with analgesic drugs or by radiotherapy to the primary site. The pain relief achieved by radiotherapy tends to be better and of longer duration than by drugs but, even so, the pain is likely to start up again within the next 6 - 9 months. However, not all bone tumours are suitable for radiotherapy. Radiotherapy has no effect against the secondaries.

Amputation is the only certain way of controlling the pain and the primary tumour itself. The pain associated with the tumour is often so severe that the dog is walking on three legs; if they can manage at this stage, they will be much happier and pain-free following amputation. Most dogs will cope very well with amputation; even Rottweilers and Great Danes will adjust to the loss of a forelimb. As an alternative to amputation, so-called

limb-salvage operations have been tried where all of the affected bone is removed and replaced with a bone graft, a large metal plate and fusion of joint. This option is fraught with major complications and is rarely performed in Britain.

Anti-cancer drugs following amputation are used to control the rate at which secondaries develop. With amputation alone, 60% of dogs will die from secondaries within six months; only 1 in 10 dogs will survive to one year. With the addition of anti-cancer drugs the six months' survival is about 60%, with 4 in 10 alive at 12 months and about 15% alive at two years. Although generally well tolerated, the drug treatment can cause occasional side effects; some nausea and vomiting may occur after the treatment but this usually resolves within a couple of days. Currently the drug is administered once every 3 weeks for four doses.

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