

## Diagnosing severe puppy strangles

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**Lisa Gardbaum** outlines a case of canine lameness and juvenile cellulitis and considers its aetiology and remedy

**A THREE-month-old female Labrador retriever dog was seen for an acute onset of right forelimb lameness, lethargy, pyrexia and inappetence 10 days after its first vaccination had been given.**

Radiographs taken at the time showed a radiolucent line distal to the growth plate with an area of sclerosis distally in the right proximal humerus ([Figure 1](#)). A presumptive diagnosis of metaphyseal osteopathy (hypertrophic osteodystrophy) was made, although juvenile haematogenous osteomyelitis was also considered. A course of amoxicillin- clavulanate, meloxicam and tramadol was given.

Four days later, the puppy developed bilateral blepharitis. Cultures from ocular swabs taken at this time were negative. A further week later, swelling in the region of the parotid lymph nodes and pustules, vesicles and crusts on the muzzle developed ([Figure 2](#)). Enlargement of the submandibular lymph nodes developed three days later and progressed over the next three days. Biopsies of the affected skin and lymph nodes at that time showed pyogranulomatous folliculitis/furunculosis and lymphadenitis respectively, and cultures were again negative. Based on this, a presumptive diagnosis of juvenile cellulitis was made.

### **Deteriorated**

The following day, the puppy had rapidly deteriorated. It became pyrexic, very dull and anorexic. It

had severe pain on palpation of all peripheral joints and was unable to stand ([Figure 3](#)). Intravenous fluids were given: dexamethasone 0.2mg/kg once daily; cefurozime 20mg/kg twice daily; and buprenorphine 0.02mg/kg every eight hours were given.

Over the following four days there was a gradual reduction in pyrexia, pain and lymph node size, and a return of appetite. The patient was discharged on prednisolone 1.0mg/kg twice daily; tramadol 2mg/kg twice daily; and cephalexin 20mg/kg twice daily. These were continued at the same doses until the skin lesions and lymphadenopathy completely resolved ([Figure 4](#)). The tramadol and cephalalexin were then stopped and the dose of prednisolone gradually weaned down over the following four weeks. At this point, they were stopped altogether.

## Juvenile cellulitis

Juvenile cellulitis is an idiopathic skin disease that occurs in puppies from three weeks to six months old. The disease is not clearly understood, but appears to have an immune-mediated component, since lesions respond dramatically to glucocorticoids. It is characterised by sterile granulomas and pustules, a pyogranulomatous (neutrophils and macrophages) dermatitis and lymphadenitis.

Hereditability is supported by an increased occurrence in certain breeds and by familial histories of the disease. Predisposed breeds include: golden retriever, miniature dachshund, Labrador retriever, Siberian husky and Lhasa apso<sup>1, 2</sup>. There is usually an acute onset of facial swelling, significant mandibular and prescapular lymphadenopathy and oedema, exudate, papules and pustules on the pinnae, face, muzzle and pericocular skin. Concurrent lethargy, pyrexia and inappetence usually occur. Joint pain can also be present and synovial fluid shows sterile neutrophilic inflammation. Diagnosis is based on clinical signs, signalment and histopathology of skin biopsies and lymph nodes.

## Treatment

Treatment for these cases must be early and aggressive with immunosuppressive doses of glucocorticoids (1-2mg/kg twice daily) to alleviate the systemic manifestations of this disease, to avoid permanent skin scarring and to prevent fatalities. Glucocorticoid doses should be tapered gradually and the dose should not be reduced until there is complete resolution of clinical signs – otherwise, signs will quickly relapse and be much more difficult to control. Systemic antibiotics, such as the cephalosporins, are usually given concurrently to control any secondary pyoderma.

## Metaphyseal osteopathy

Metaphyseal osteopathy (hypertrophic osteodystrophy) is an uncommon disease of unknown aetiology affecting young (three to seven months old), large, rapid-growing dog breeds.

Radiographically, there is a zone of lucency within the metaphysis of long bones parallel and adjacent to the physis with an area of sclerosis distally. The distal radius, ulna and tibia are most commonly affected.

Systemic signs are often present and may include pyrexia, anorexia, pain, arched back and a reluctance to move. Several cases have been reported in which signs of juvenile cellulitis and metaphyseal osteopathy have occurred simultaneously.

Since both these syndromes are relatively uncommon, it has been suggested that they may be a manifestation of the same disease process<sup>3</sup>. It has also been postulated that these concurrent conditions often occur after administration of combined modified live vaccinations, with most such cases developing within 10-14 days.

Furthermore, since canine distemper virus (CDV) has been isolated from metaphyseal bone cells in affected animals with metaphyseal osteopathy, it has been suggested that it might be a causative factor, and be related to either infection with attenuated distemper vaccine virus in an immunocompromised host, or infection with virulent CDV in a dog that has been incompletely protected by vaccination<sup>4, 5, 6</sup>. Similarly, it has been suggested that, in some patients, juvenile cellulitis may be an atypical clinical variant of CDV infection<sup>3</sup>.

- Some of the drugs mentioned in this article are not licensed for veterinary use.

## References

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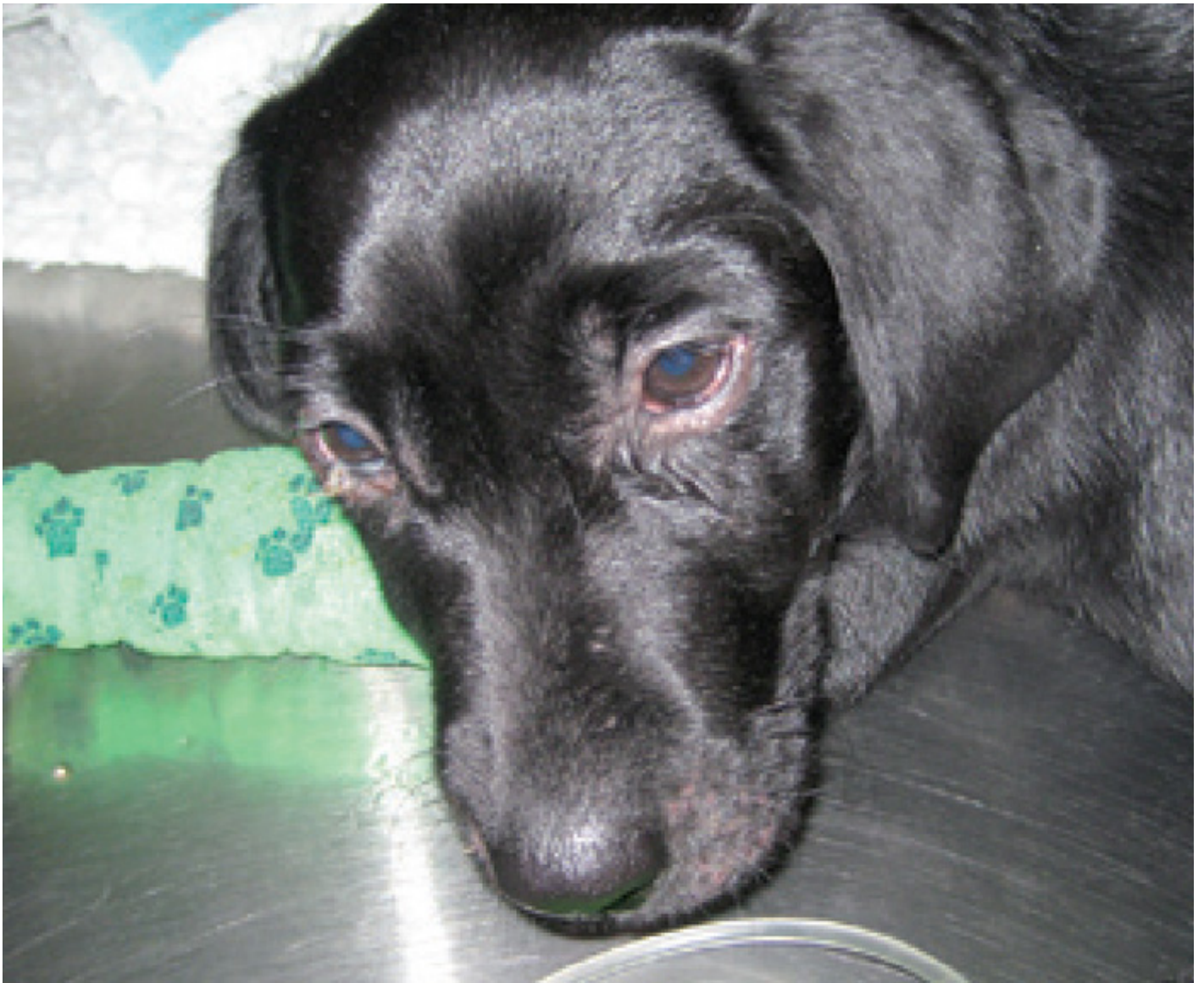




*Figure 1. A radiograph taken of the puppy after it became acutely lame.*



***Figure 2. The puppy developed pustules, vesicles and crusts on the muzzle.***



***Figure 3 (right). The patient rapidly deteriorated, becoming pyrexemic, very dull, anorexic, in severe pain and unable to stand.***





***Figure 4. The puppy responded well to drug therapy, showing a gradual reduction in pyrexia, pain and lymph node size, and a return of appetite.***



