

Juvenile Cellulitis in a labrador retriever- A case report

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Abstract

A labrador retriever pup aged 50 days was brought to Madras Veterinary College Small animal outpatient Unit with a history of anorexia, pyrexia, dullness with papules and pustules over muzzle and ear pinnae since three days. Facial edema, periocular edema and enlargement of pre scapular and submandibular lymphnodes were noticed on clinical examination. After complete physical examination, blood samples, skin scrapings, samples for bacterial culture and cytology were taken. Hemogram revealed anemia, serum biochemistry revealed low serum total protein concentration, skin scrapings were negative for parasites, no growth was present on bacterial culture from aspirated pustules, cytology from moist lesions showed presence of neutrophils and cocci. Based on the physical examination, hematological, biochemical and microbiological investigations, the present case was diagnosed as Canine Juvenile cellulitis and treatment initiated with antibiotic and corticosteroid parenterally for three days. There was a remarkable improvement noticed with reduced facial edema, reduced periocular edema and dry external ear pinnae. Treatment was continued with oral antibiotic for seven days and the pup recovered uneventfully.

Keywords: Canine Juvenile cellulitis, puppy strangles

Juvenile cellulitis is a progressive granulomatous pustular disorder of puppies. It is most common in dogs younger than four months of age, occasionally reported in dogs up to 4 years old. Daschund, Golden retriever, Labrador retriever, Golden setter, Beagle, pointer puppies are predisposed. Cause and pathogenesis are unknown. The eyelids, pinnae, lips, chin, muzzle, paws, abdomen, thorax, prepuce and anus can be affected with lesions that fistulate, drain and crust.

Lymphadenomegaly most commonly submandibular, superficial cervical can be distant from the affected sites and is often painful. The ear pinnae may be swollen and exudative. vesicles, pustules, serous to purulent exudate, crusts, cellulitis and alopecia develop on lips, muzzle and eyelid margins. Lesions may also involve the anus and prepuce and lesions may be mild to severe and are often painful but not pruritic (Keith *et al.*, 2011).

Case History and Treatment

A 50 days old, 2 kg body weight, female Labrador retriever puppy was presented to Madras veterinary college Small animal clinic outpatient Unit with history of fever, inappetence followed by progressive development of granulomatous abscess-like lesions, moist exudation on pinna and muzzle, lips, periocular region as well as facial perioral papules, swollen face and constant shaking of its head. Vaccination was done on 45th day of age against Distemper and Parvo virus. Littermates were not affected. On physical examination, the rectal temperature was 103.5°F, heart rate - 136 beats / min. facial edema, papules, pustules and crusts localized periocularly, periorally, on the chin and muzzle of this dog were detected (Fig.1). Affected skin was painful but not pruritic. Lethargy, and anorexia was noticed. Moist dermatitis was also present around the pustules and pinnae (Fig.2). Submandibular and prescapular lymphadenopathy was also observed (Fig.3).

On the day of Presentation

Fig.1 Papular rash with pustules and moist exudates on the muzzle and periocular region and swollen face before treatment.

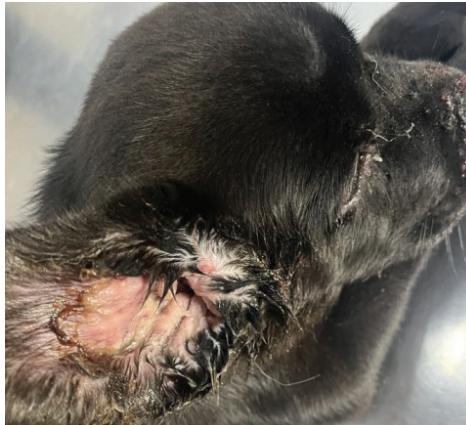


Fig.2 Typical moist dermatitis associated with juvenile cellulitis (Right ear)



Fig.3 Submandibular and prescapular lymphadenopathy

Routine hematology revealed anemia (PCV: 26.6%, Hemoglobin concentration: 8.6 g/dL, WBC- 12000 cells / cmm. On Serum Biochemical analysis the total serum total protein concentration was 6.08 g/dL and serum albumin level was 1.7 g/dL. No remarkable

changes in serum biochemical and hematological examination were observed except low albumin level. Skin scraping was negative for parasites. Culture of intact pustules was negative for bacterial organisms. The moist lesions had *Staphylococci* growth and cytology revealed neutrophils and cocci.

3rd day post treatment

Fig 4 - Dry muzzle, chin and reduced facial edema, periocular edema, submandibular and healing lesions in lips, prescapular lymph node



Fig.5 Dry external ear pinna with no secretions

8th day post treatment

Fig. 6. No papular rash and pustules with complete recovery.

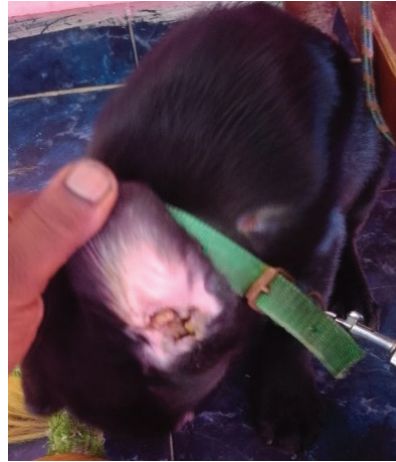


Fig.7. Completely recovered ear pinnae

Aspirates from intact pustules were negative for bacterial growth. Exudative cytology of lesion revealed presence of neutrophils, macrophages, epithelial cells and cocci. Based on the results and clinical signs the case was diagnosed as juvenile cellulitis. Cefotaxime was given at dose rate of 50 mg/kg intravenously twice daily for three days, Prednisolone at a dose rate of 2 mg/kg IM for first three days along with Ringer's lactate followed by Cefpodoxime proxetil at a dose rate of 10 mg/kg orally once a day for seven days. Following first 3 days treatment with Cefotaxime and Prednisolone facial edema reduced, external ear pinnae dried with no secretions, reduced periocular edema, size of submandibular and pre-scapular lymphnodes got reduced (Fig.4, Fig.5). On 8th day during treatment, complete healing was noticed with no papular lesions, dry ear pinnae and lymphnodes were reduced in size (Fig.6, Fig.7).

Discussion

Juvenile cellulitis (Juvenile pyoderma, puppy strangles, juvenile sterile granulomatous dermatitis and lymphadenitis) is an uncommon granulomatous and pustular disorder of the face, pinnae and submandibular lymph nodes, usually of puppies (Gross *et al.*, 2005 and Reimann *et al.*, 1989). Puppies are affected between the ages of 3 weeks and 4 months and one or several puppies in a litter may have this condition. A few reports of dogs with older age onset and typical lesions and findings have been reported (Gross *et al.*, 2005; Reimann *et al.*, 1989 and Jeffers *et al.*, 1995). Although numerous breeds have experienced the disorder, Golden retrievers,

Daschunds and Gordon setters appear to be predisposed (White *et al.*, 1988 and Mason *et al.*, 1989). Other breeds such as English cocker spaniel, Labrador retriever and Lhasa Apso may be predisposed, but better studies are needed to validate breed observations, as many breeds have been affected (Gross *et al.*, 2005; Park *et al.*, 2010 and Park *et al.*, 2004). In the present case, the dog was 50 days old female Labrador retriever.

The cause and pathogenesis are unknown. Heritability is supported by an increased occurrence in certain breeds and by familial histories of disease (Gross *et al.*, 2005 and Park *et al.*, 2010). Other authors (Moriello *et al.*, 1992 and Kummel *et al.*, 1990) reported that some juveniles cases associated with vaccination and a hypersensitivity of the immune system. In this case, pup was vaccinated on 45th day against Distemper and parvo virus. In addition, the disease may be hereditary (Scott *et al.*, 1995), but no signs of the disease have been observed in the littermates of the case. In this case, *staphylococci* organisms were identified from impression cytology of drained lesions.

The culture results of intact pustules were negative for bacterial growth suggests a non-bacterial cause for this case. The occurrence of sterile pustules that respond dramatically to glucocorticoids suggests an underlying immune dysfunction. Clinical signs in juvenile cellulitis include lymphadenopathy (submandibular and prescapular), swollen face, lesions most common on the lips, muzzle, chin, bridge of nose and periocular area as observed in the reported case. Otitis externa is common and pinnae are frequently

thickened and edematous with pyrexia, anorexia and lethargy.(Scott *et al.*, 1995; Rosychuk *et al.*, 2000, Reimann *et al.*, 1989 and Nagarajan *et al.*, 2012). The signs of the case reported are similar. Hematological report showed anemia, which were consistent with previous report on hematological changes induced by juvenile cellulitis. Anemia in this case may be attributed to inflammatory condition and serum biochemistry report showed increase in serum total protein concentration as reported by Jain (Jain *et al.*, 1986) which is probably related with the acute inflammatory inflammation. It has been reported that a combination of a cephalosporin (at a dose of 20-30 mg/kg) and glucocorticoids (at a dose of 1-2 mg/kg) is effective in the treatment of dogs with juvenile cellulitis (Scott *et al.*, 1995 and Mason *et al.*, 1989). In the present case cefotaxime 50 mg/kg BID, prednisolone at initial dose 2 mg/kg for first three days followed by Cefpodoxime proxetil tablet at a dose rate of 10 mg/kg orally once a day for three days had favourable response.

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