

## Juvenile Cellulitis in a Labrador retriever Puppy

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### Abstract

Juvenile cellulitis, commonly known as puppy strangles is characterised by acute swelling, pustular dermatitis and lymphadenopathy. An eight-week-old Labrador retriever puppy was presented with the history of nodular skin lesions and facial oedema that was not resolving with antibiotic therapy. Clinical examination revealed lymphadenopathy and secondary otitis. From skin scrapings, lymph node cytology, bacterial culture and response to therapy, the condition was diagnosed as puppy strangles. The pup made a full recovery upon glucocorticoid therapy.

**Keywords:** Juvenile pyoderma, sterile granulomatous dermatitis and lymphadenitis, young dogs, immune-mediated

### Introduction

Puppy strangles is a sterile vesiculopustular to granulomatous lympho-cutaneous disease primarily affecting dogs under 16 weeks of age; involving the face, ears (pinnae) and submandibular lymph nodes (Cohn and Cote, 2019). One or several puppies in a litter can be affected with breed predilection observed in Golden retrievers, Dachshunds, Labrador Retriever, Siberian Husky and Lhasa Apso (Bassett *et al.*, 2005). A case of juvenile cellulitis in a Labrador puppy is presented in this article.

### Case history and Observations

An 8-week-old male unvaccinated Labrador retriever pup was presented to Teaching Veterinary Clinical Complex, Pookode with nodular oedematous lesions in and around face, symmetrical lumps on either side of the lateral neck and severe head shaking. Pet was bright and alert and was reported to have normal food and water intake. All the vital parameters were within the normal range. Severe painful bilateral enlargement of prescapular, mandibular and popliteal lymph nodes could be appreciated (Fig. 2).

Oedema and folliculitis could be noticed primarily in the periocular region, muzzle, rostral chin and aural canals (Fig. 3). Purulent discharge and ulceration could be observed inside both the ear canals (Fig. 4). Fleas were observed on the body. Laboratory investigations included wet film being negative for

filariasis, blood smear negative for haemo-parasites, impression cytology from the ear pinna positive for cocci, rods and *Malassezia* species. Interpretation of clinicopathologic data revealed leucocytosis ( $27.28 \times 10^3/\mu\text{L}$ ) and mild anaemia (RBC –  $4.32 \times 10^6/\mu\text{L}$ , Hb – 9.1 g/dL, HCT – 28 %). Serum biochemistry values were normal for the age of the pup. The discharge from ears were given for culture and antibiotic sensitivity testing, which showed sensitivity for amoxicillin-clavulanate, gentamicin, neomycin and ceftriaxone-tazobactam. Prescapular lymph node aspiration cytology revealed the presence of a mixed pattern with greater percentage of degenerative neutrophils and reactive macrophages suggestive of a pyogranulomatous lymphadenitis (Fig. 5). No growth was observed upon culture of the prescapular lymph node aspirate.

### Treatment and Discussion

The pet was treated with oral prednisolone sodium phosphate (2 mg/kg PO q24h), amoxicillin-clavulanate (12.5 mg/kg PO q12h), ranitidine (2 mg/kg PO ac q12h) and an ear drop containing ofloxacin, clotrimazole, betamethasone and lignocaine initially given for a span of 14 days. Profound improvement could be noticed on day-5 of the therapy. The enlarged lymph nodes were reduced in size by half and inflammation of the ears were almost resolved (Fig. 6). Prednisolone was tapered gradually as no new lesions developed. Treatment with prednisolone was continued for a period of 4 weeks. A definitive diagnosis can be made by cytological exam and histopathology accompanied by typical

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complete blood count changes including leucocytosis, neutrophilia and normochromic-normocytic anaemia (Bassett *et al.*, 2005). The condition is often mistaken as cutaneous drug reactions or bacterial pyoderma (Bassett *et al.*, 2005). Pyogranulomatous inflammation with no micro-organisms is the main cytologic examination finding unless a secondarily infected area is sampled. If pursued, histopathology findings would show an epidermis that ranges from normal to acanthotic, sometimes with ulcerated lesions. The dermis typically contains multiple discrete or confluent granulomas and pyogranulomas, which are composed of nodular clusters of large epithelioid macrophages and neutrophils. These pyogranulomas are often arranged around hair follicles,

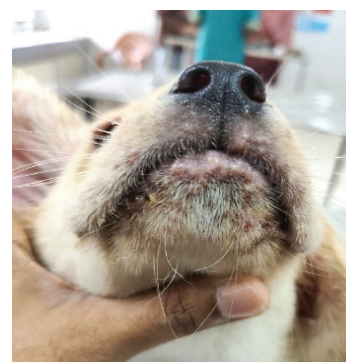
usually without invading the follicular walls, and may extend into the panniculus and subcutis (Bajwa, 2022). Cyclosporine with prednisolone has also been found effective in cases where inadequate response is seen to sole prednisolone; or adverse effects like polydipsia-polyuria are evident (Park *et al.*, 2010; Bajwa, 2022). If cytologic or clinical signs of secondary bacterial infections are present, bactericidal antibiotics such as cephalexin, cefadroxil, or amoxicillin-clavulanate should be administered concurrently. Relapses are uncommon as reported by Kumar *et al.* (2013). The case study emphasizes the need for accurate diagnosis and immediate immunosuppressive therapy for the better prognosis of the disease.



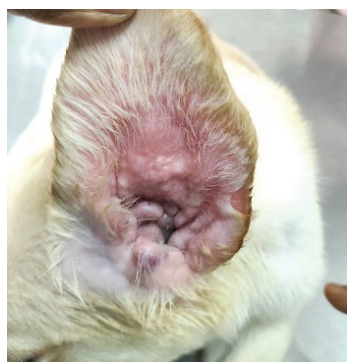
**Fig. 1** Juvenile cellulitis having inflamed, swollen muzzle and ear pinnae on day-1



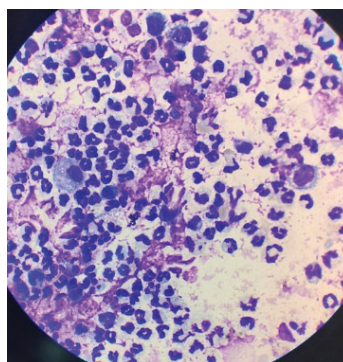
**Fig. 2** Bilateral prescapular lymphadenopathy



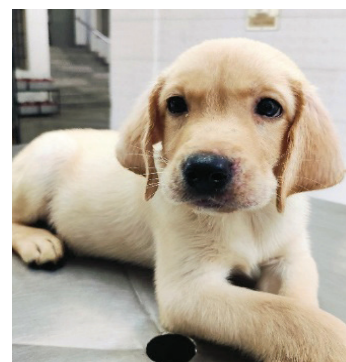
**Fig. 3** Erythematous raised nodules at the mucocutaneous junction of lips



**Fig. 4** Inflamed and occluded ear canal with pustules and ulceration



**Fig. 5** Prescapular lymph node aspiration cytology suggestive of pyogranulomatous lymphadenitis



**Fig. 6** Puppy post day-5 of glucocorticoid therapy

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## Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author.

**Animal Ethics Declaration**

The study was performed in accordance with the Institutional Animal Ethics Committee and consent from the owner had been collected.

**References**

- Bajwa, J. 2022. Juvenile cellulitis (juvenile sterile granulomatous dermatitis and lymphadenitis) in a 9-week-old puppy treated with prednisolone-cyclosporine combination therapy. *Can. Vet. J.*, **63**: 313-316.
- Bassett, R.J., Burton, G.G. and Robson, D.C. (2005). Juvenile cellulitis in an 8-month-old dog. *Australian Vet. J.*, **83**: 280-282.
- Cohn, L. and Cote, E. 2019. Cote's Clinical Veterinary Advisor: Dogs and Cats. IV edn., Elsevier, Missouri, pp. 567-568.
- Kumar, A.A., Pillai, U.N. and Aipe, A.A. 2013. Clinical management of juvenile cellulitis in a dachshund pup. *Intas Polivet*, **14**: 234-235.
- Martens, S.M. 2016. Juvenile cellulitis in a 7-week-old golden retriever dog. *Can. Vet. J.*, **57**: 202.
- Miller, W.H., Griffin, C.E. and Campbell, K.L. 201). Muller and Kirk's Small Animal Dermatology. VII edn., Elsevier, Missouri, pp. 708-709.
- Park, C., Yoo, J., Kim, H., Kang, B. and Park, H. 2010. Combination of cyclosporine A and prednisolone for juvenile cellulitis concurrent with hind limb paresis in 3 English Cocker Spaniel puppies. *Can. Vet. J.*, **51**: 1265-1268.

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