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Cytological study on canine lymphoma

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Abstract
A 8 year old female Labrador dog was presented with a history of enlargement of the lymph nodes at Veterinary Clinical Complex, IVS & AH, SOA Bhubaneswar. Fine needle aspiration biopsy was performed from the lymph nodes and thin smear was prepared. The slide was fixed with methanol for 5 minutes and then stain by giemsa for 30 minutes and observed under the microscope. Based on fine needle aspiration biopsy, the sample was diagnosed as lymphoma.

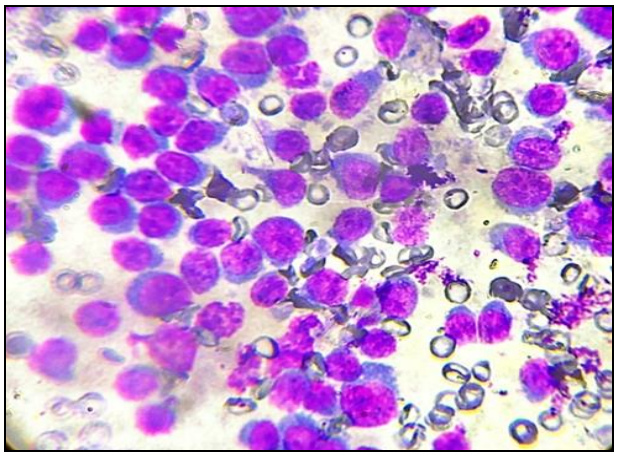
Keywords: Bhubaneswar, cytology, canine, lymphoma, canine lymphoma, microscope

Introduction
Lymphoma is one of the most common neoplasm's in dogs also known as lymphosarcoma or malignant lymphoma. It is responsible for up to 83% of all canine hematological malignancies and 7 to 24% of all canine cancers (Vail and Young, 2007; Vail, 2010) [1, 2]. Among purebred of dogs, the most prevalent breeds with lymphoma were Golden Retrievers, Labrador Retrievers, German shepherd and Boxers. Most of the lymphoma cases in all breed of dogs have occurred between 5-10 years of age (Eraghi *et al.*, 2005) [3]. Malignant lymphoid cell proliferation causes lymphosarcoma this typically occurs in lymphoid tissue such as liver, spleen or lymph nodes but the tumor can start in any tissue (Vail and Young, 2007; Couto, 2009; Vail, 2010) [1, 4, 2] . The present study report on the occurrence of lymphoma in canine.

Materials and Methods
A 8 year old female Labrador dog was presented with a history of enlargement of the lymph nodes at Veterinary Clinical Complex, IVS & AH, SOA, Bhubaneswar. Fine needle aspiration biopsy was performed from the lymph nodes and thin smear was prepared. The slide was fixed with methanol for 5 minutes and then stain by Giemsa for 30 minutes and observed under the microscope.

Results and Discussion
In the present study, an 8 year old female Labrador dog was presented with a history of enlargement of the lymph nodes at Veterinary Clinical Complex, IVS & AH, SOA and Bhubaneswar. Fine needle aspiration biopsy was performed from the area followed by Giemsa staining. Cytological examination of the given sample revealed presence of different size of lymphocytes predominantly of large lymphocytes, basophilic cytoplasm, high nucleus to cytoplasmic ratio with numerous prominent nucleoli (Figure 1 & 2). The findings are in accordance with the earlier work of Karthik *et al.* (2023) [5] who reported lymphoma in boxer breed of dog. Eraghi *et al.* (2025) [3] reported that incidence was common in age group between 5-10 years which support our findings. Studies have indeed shown that Labrador breed of dog are predisposed to lymphoma which support our findings.

Conclusion
Cytological examination is a rapid, less invasive and highly specific diagnostic tool for the evaluation of canine lymphadenopathy. It is an effective first line approach to clinical evaluation of suspected cases of canine lymphoma and aids in early presumptive diagnosis.



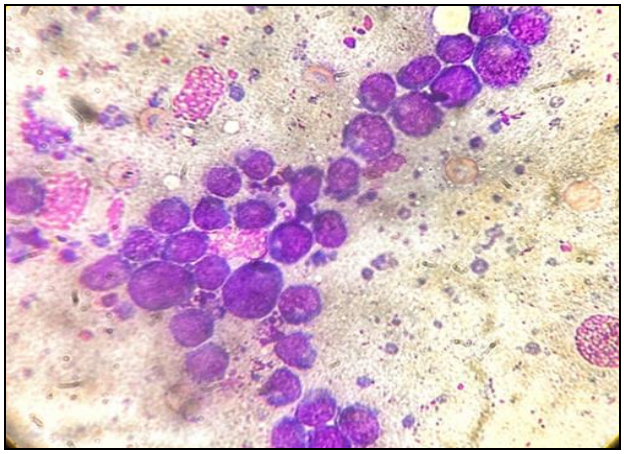


Fig 1 & 2: Lymph nodes aspirate showing large lymphocytes with moderate amount of basophilic cytoplasm, prominent nuclei with smudge cells. Giemsa, 1000x

Conflict of Interest
Not available

Financial Support
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