

S. Turchetto¹, K. Törner¹, J. M. Grassinger¹, T. Müller², A. Floren³, H. Aupperle-Lellbach¹

¹LABOKLIN GmbH & Co. KG, Bad Kissingen, Germany;

²Department of Bioinformatics, University Würzburg, Germany;

³Department of Animal Ecology and Tropical Ecology, University Würzburg, Germany

Introduction

- Tumors are predominantly diagnosed in older animals.
- The **aim of this study** was to describe tumors occurring in juvenile dogs up to 24 months of age in histopathological routine material.



Fig. 1: Gross pictures of a **Squamous cell carcinoma** in the oral cavity of a 3 months old dog (A) and a **cutaneous histiocytoma** of the ear in a 2 years old dog (B).



5-months old Miniature poodle

Material & Methods

- Retrospective statistical analysis from histopathological routine investigation data sets of 8276 dogs submitted to LABOKLIN (2016–2019).
Inclusion criteria: breed, age (up to 24 months), and final diagnosis were available.

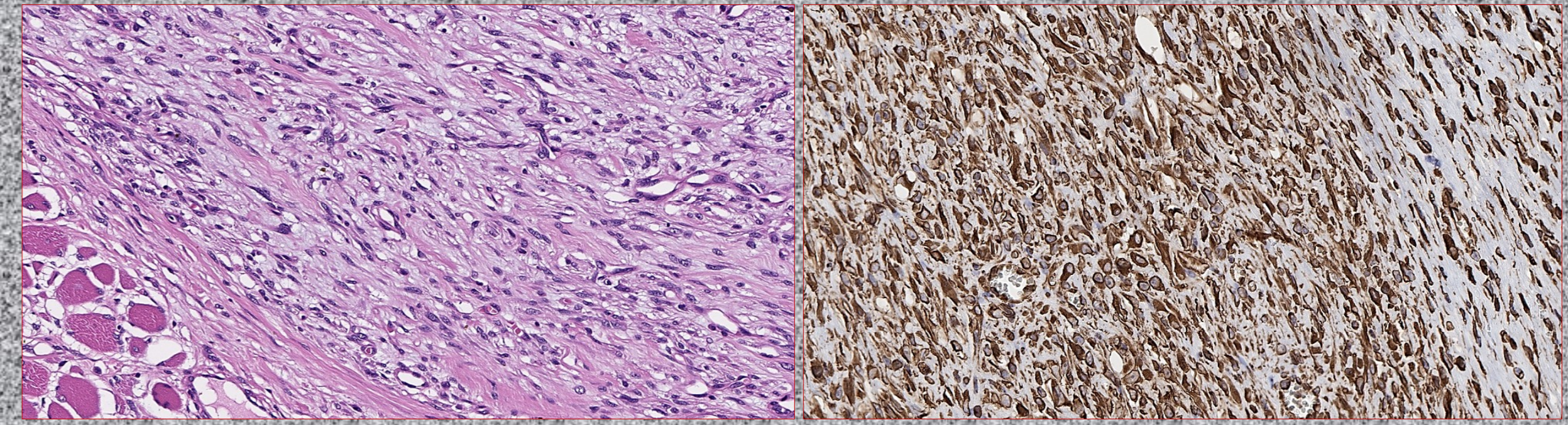


Fig. 2: Histology (HE stain, A) and immunohistochemistry (Vimentin, B) of a **soft tissue sarcoma** in a 2-years old dog.

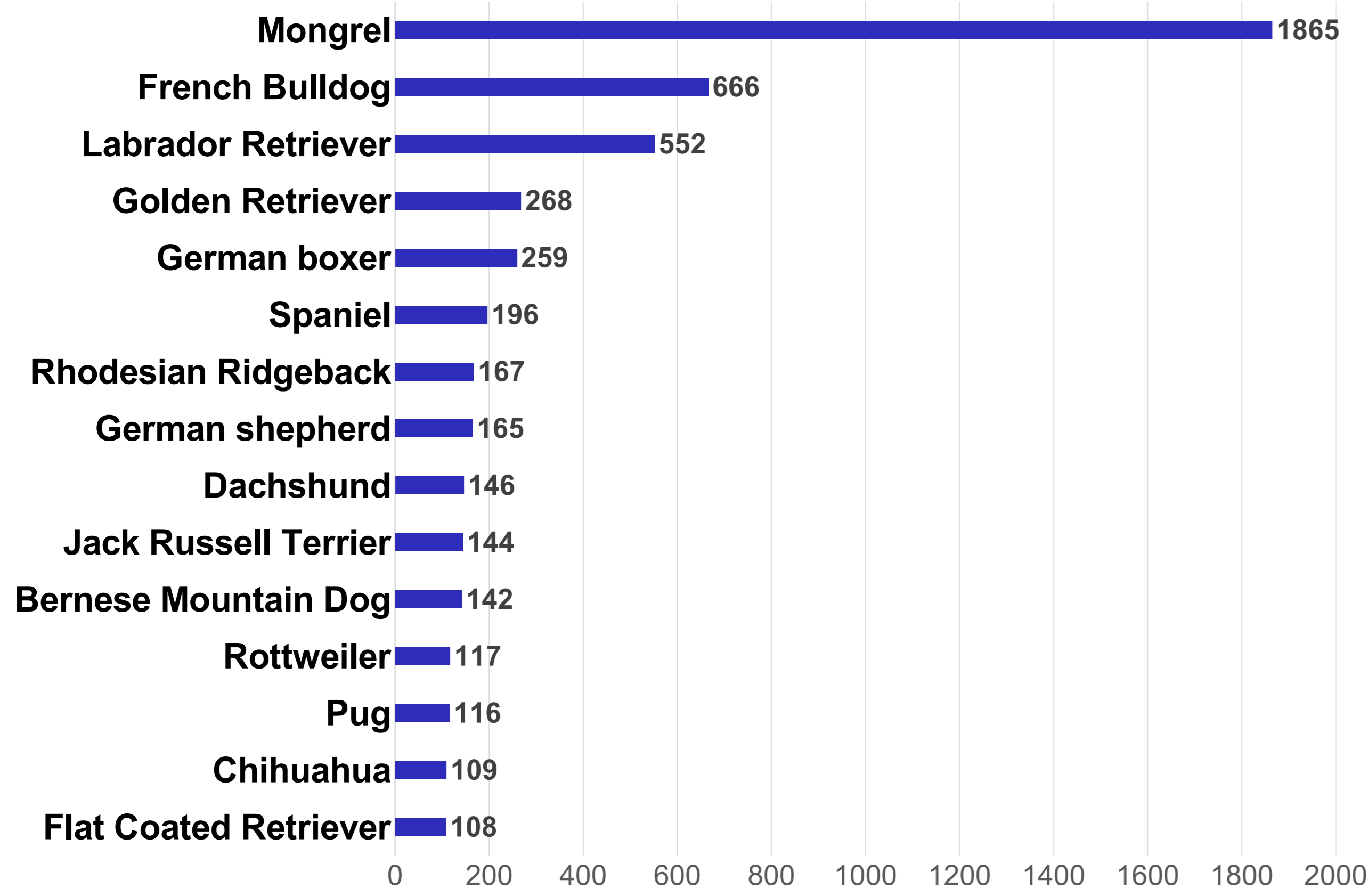


Fig. 3: Most common 15 breeds in histopathological submission material from 8276 dogs aged <2 year.

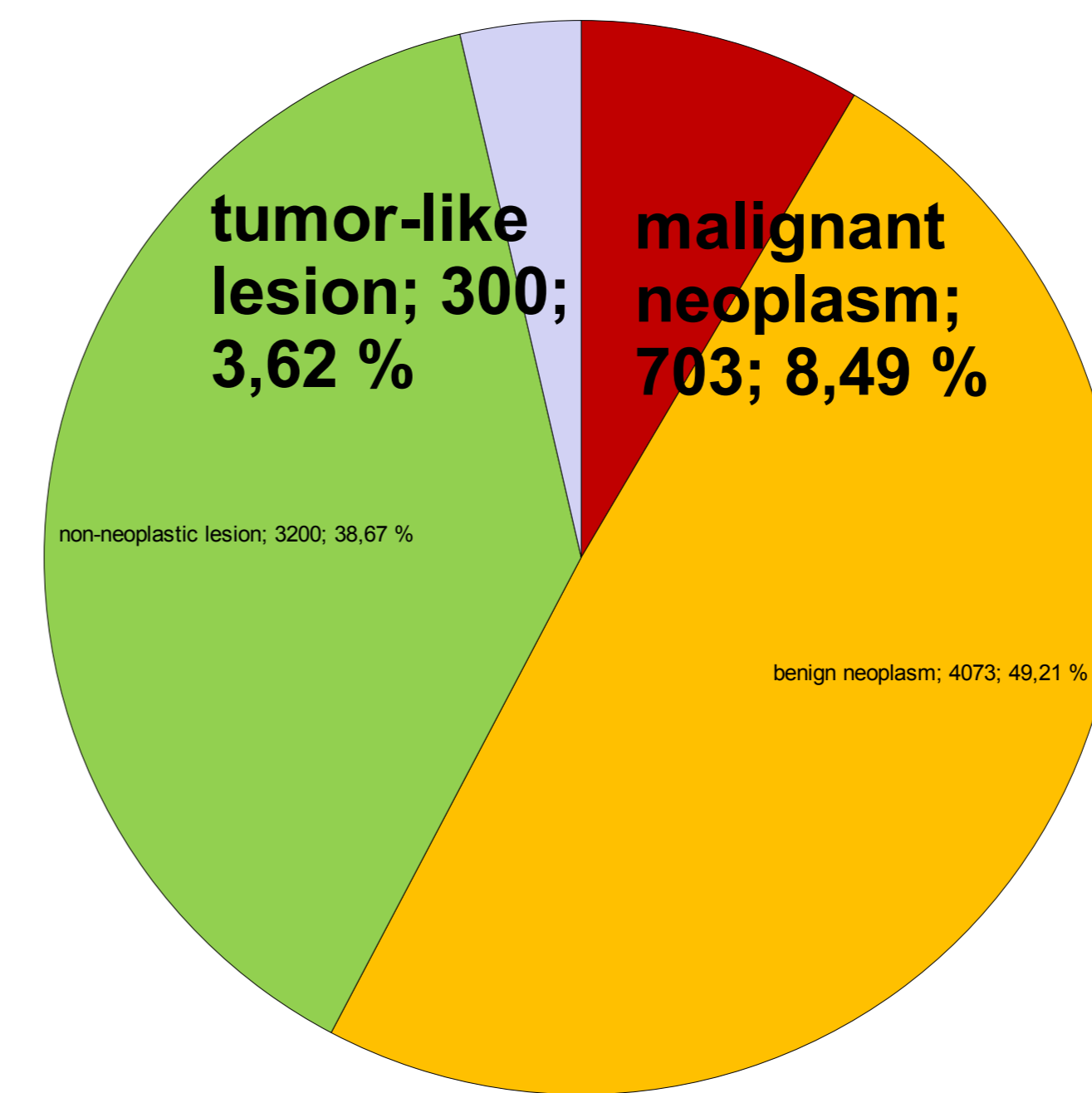


Fig. 4a: Histopathological diagnoses from 8276 dogs aged <2 year classified as:
 • Non-neoplastic lesions;
 • Tumor-like lesions;
 • Benign neoplasms (Fig. 4b);
 • (semi) malignant neoplasms (Fig. 4c).

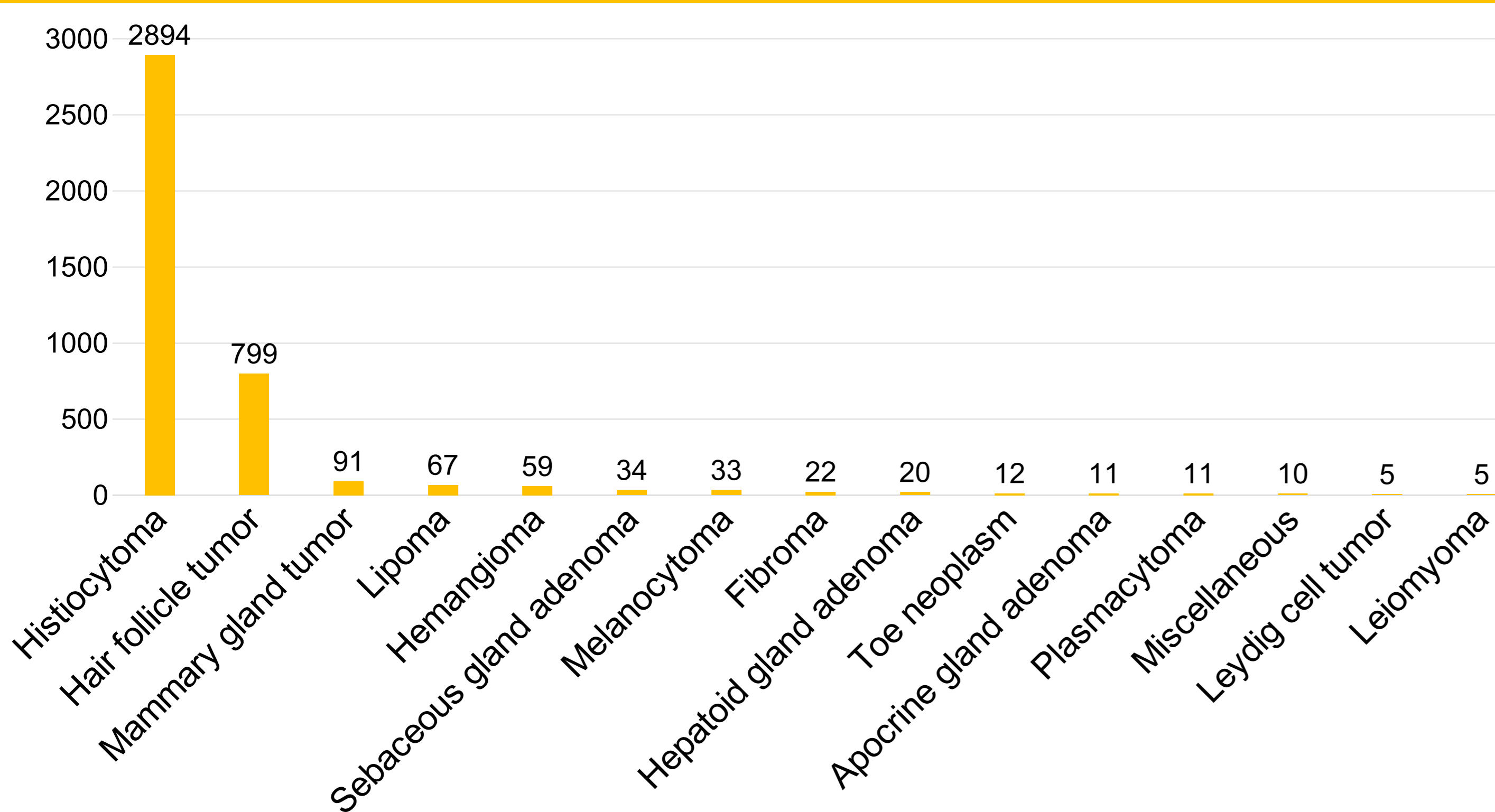


Fig. 4b: Benign tumors in dogs aged <2 year.

Cutaneous histiocytoma was the most frequent neoplasm in young dogs (61%) with French bulldogs being overrepresented (n= 363).

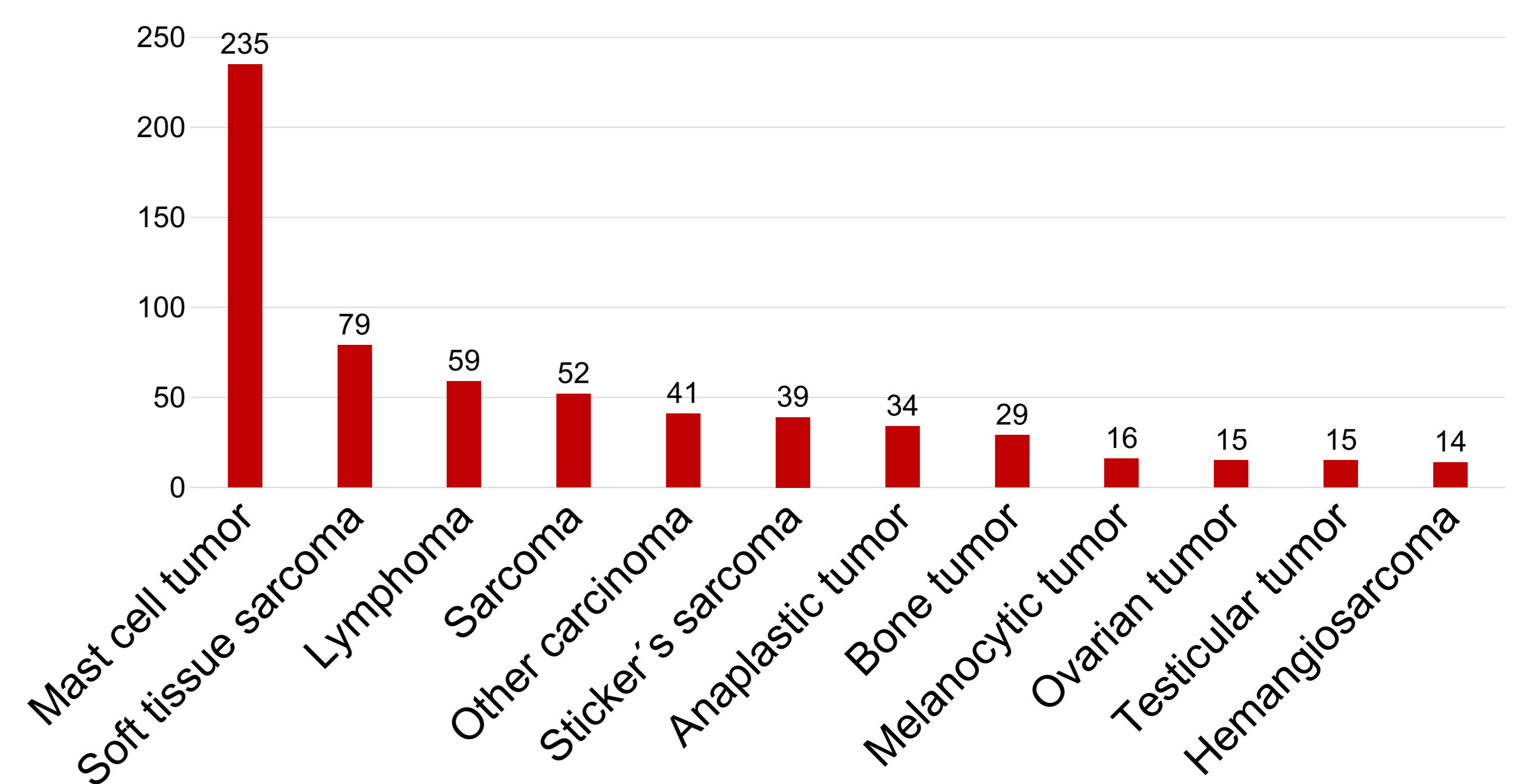


Fig. 4c: (Semi) malignant tumors from dogs aged <2 year.

Mast cell tumor: 98x grade I, 129x grade II, 4x grade III (Patnaik et al. 1984).
Soft tissue sarcoma: 34x grade 1, 15x grade 2, 2x grade 3 (Mc Sporrán 2009)
Lymphoma: Diagnosed in lymph nodes (51%), gastrointestinal tract (22%), spleen/liver (19%), or skin (8%).

Conclusions

- Pediatric dogs showed predominantly **benign** tumors, especially **cutaneous histiocytomas**.
 - However, **8%** of the tumors were **(semi)malignant in very young dogs**.
- Because of the **therapeutic and prognostic relevance**, a **cytological or histopathological examination** of all lumps are recommended in young dogs.