Dear Editor,

Recently, we have read with interest the article “A case of canine high-grade T-cell lymphoma immunophenotypically consistent with T-zone lymphoma” by Parachini-Winter et al. on Veterinary Clinical Pathology. This report describes an interesting case of canine Peripheral T Cell Lymphoma (PTCL) where neoplastic cells show a peculiar immunophenotype (CD45 neg, CD5 pos) with several similarities to T-zone lymphoma (TZL).

The case is accurately documented and the current literature on the topic is adequately evaluated. However, some of the conclusions need further discussion in order to avoid incorrect messages to the readers.

The authors discredit describe the limit of flow cytometry (FC) in the T zone lymphoma diagnostic work-up stating that antibodies reactivities led to an incorrect diagnosis of TZL in this dog. Moreover, the authors suggest the necessity of lymphadenectomy and subsequent histopathological and immunohistochemical evaluation to diagnose TZL.

Based on our experience, we partially disagree with the aforementioned statement and below the principal issues are discussed.

The data obtained from cytology and flow cytometry in association with the most significant clinicopathological features such as complete blood cell count, are often sufficient for a final diagnosis of TZL with no need for histopathology. Indeed, in the current case description, many clinic-pathological features are in contrast with the classical presentation of canine TZL that have been reported previously.

First, the size of cells cytologically described as “intermediated to occasionally large” (this was also confirmed by the high Forward Scatter properties in FC) disagrees with the TZL morphological appearance.
TZL are characterized by small clear cells in most of the published case series. Second, the mitotic index reported as “1-5 mitotic figure per 50X field” is generally considered as high according to the updated Kiel classification. Conversely, by definition TZL are classified as indolent low-grade lymphoma. Third, several case series reported blood infiltration as an almost constant hematological feature of TZL, and this was not the case, even if flow cytometry was not performed on peripheral blood to check for a low percentage of neoplastic cells. Based on the above and our experience, the diagnosis of TZL should have been considered as highly improbable in this dog despite CD45 negativity.

Over the last 10 years our caseload recruited about 5000 FC phenotype canine lymphomas and CD45 negativity was very rare in lymphoma subtypes other than TZL, but still, it may occur. In a recent retrospective case series we have described a dog with extranodal lymphoma where neoplastic cells were large-sized and CD45 negative, leading to a probable diagnosis of PTCL rather than TZL. Other authors have also reported a T-cell lingual lymphoma with similar features as also adequately addressed in the present paper.

The authors state that “this case differs from previous research findings and the potential conclusion that flow cytometry alone is reliable to diagnose TZL in dogs”. The conclusion that FC alone is able to diagnose TZL is an overinterpretation not supported by any of the quoted references.

In contrast in the paper from Martini et al 2016, cases with “a cytological diagnosis of small-clear cell lymphoma” and a concomitant “CD45-negative small T-cells” phenotype based on FC were enrolled and in 2015, Martini et al clearly stated that “the combined use of cytology and FC allows solving the differential diagnosis between small clear cell lymphoma and non-neoplastic reactive conditions when histopathology is not available”. Finally, Harris et al described cases “based on a variable combination of cytology, histopathology, immunohistochemistry, immunophenotyping via flow cytometry and PCR for antigen receptor rearrangement assay”.

From all the published data it is evident that an accurate analysis of more than one clinicopathological aspect is necessary to recognize TZL if lymphadenectomy and subsequent histopathology are not
considered. Furthermore, guidelines from ECLN have reported that FC should always be examined in light of cytological appearance in order to avoid a mis-diagnosis.

It is not our intention to minimize the importance of histopathology in the diagnosis and classification of canine lymphoma, as we always describe lymphadenectomy as a fundamental step in the lymphoma diagnostic workup. However, we are aware that many clinicians often treat dogs with lymphoma without a histopathological diagnosis, as shown by a recent survey. This is particularly true for low-grade lymphomas in which the indolent nature of the disease tends often to redirect towards non-invasive diagnostic techniques and a more prudent behavior.

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References


