Peri-articular Histioytic Sarcoma and Previous Joint Disease in Bernese Mountain Dogs.


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Background: Peri-articular histiocytic sarcoma (PAHS) occurs in dogs, including Bernese Mountain Dogs (BMD). An etiologic relationship with previous joint disease has not been documented.

Hypothesis: Peri-articular histiocytic sarcoma in BMD will be more frequently encountered around previously diseased joints compared with normal joints.

Animals: 920 European BMD.

Methods: A retrospective study, in which data were obtained through an Internet questionnaire and from 2 veterinary pathology laboratories. Archived samples of hematoxylin-eosin (H&E) staining diagnosed PAHS and synovial cell sarcoma (SCS) were immunolabeled with CD18 and pancytokeratin. Descriptive, comparative, and actuarial statistics comprise the data analysis.

Results: All primary synovial tumors were identified as PAHS based on their morphology, positive CD18, and negative pancytokeratin labeling. Joint disease was diagnosed in 226 BMD, of which 15 developed PAHS in a previously diseased joint and 3 in a nondiseased joint. Of the remaining 694 BMD without joint disease, 9 developed PAHS. The odds ratio for a dog with previous joint disease developing PAHS is calculated as 5.4 (95% CI: 2.3–12.5; P < .0001) compared with no previous joint problem. A significant association between previous joint disease and PAHS in the same joint was demonstrated for the left elbow (P = .016), right elbow (P = .047), left and right stifle (P < .001), and left carpal joint (P = .010).

Conclusions and Clinical Importance: The results of this study suggest a relation between previous joint disease and the development of PAHS in the same joint of European BMD. Owners of BMD should monitor dogs for peri-articular swellings, particularly around previously diseased joints.

Key words: Arthritis; CD18; Dendritic cells; Pancytokeratin; Synovium.