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Balanoposthitis: relationships with age, reproductive status (castrated/entire) and Periodontal disease in dog.
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Balanoposthitis (B) and periodontal disease (PD) are common canine disorders, both of which may be under diagnosed. The aim of the present study was to determine whether there is a correlation between balanoposthitis and age, reproductive status (castrated or not), or PD. We selected 71 adult male dogs that presented during 1 year for routine examination at the Reproduction Service, Hospital Veterinario de la Universidad de Zaragoza, Spain. Participants included small breeds (≤9.99 kg, 24%), medium breeds, which included mixed breeds (10.00-24.99 kg, 39.4%), and large breeds (≥ 25.00 kg, 36.6%). Only 22.5% had been castrated. The age range for all dogs examined was 8 months to 14 years (yrs). Dogs were grouped according to age: ≤2 yrs (27%), 2-5 yrs (21%), 6-10 yrs (38%), and >10 yrs (14%). A complete history for each dog was obtained and each was given complete reproductive and dental examinations. In the 37 cases in which balanoposthitis was suspected, bacterial cultures were inoculated from preputial secretions. Potential pathogens were detected in 81.1% of preputial cultures. \textit{Streptococcus spp} (16.2%), \textit{Mycoplasma spp.} (13.5%), \textit{Staphylococcus spp} (10.8%) were the most frequently isolated from a total of 15 genera identified in 37 cultures. A total of 30 dogs met our criteria for a definitive diagnosis of B, basis in clinical signs (purulent preputial discharge), preputial cytology, and pathogen bacteria isolation. All dogs in the study were also ranked according to PD stage using the American Veterinary Dental College criteria (2012)\textsuperscript{1}. The proportions observed in each stage were: 17.1% Stage 0 (PD absent), 47.2% Stage 1-2 (PD mild), and 35.7% Stages 3-4 (PD severe). The Crosstabs procedure (v.22, SPSS Inc. Chicago, IL) was used to test association between groups. The Bonferroni correction was used for multiple comparisons. P values <0.05 were considered to be statistically significant. No association was identified between balanoposthitis and reproductive status (P=0.333). An association between a definitive B diagnosis and age was identified, as dogs ≤2 years of age were significantly higher in the group with a definitive B diagnosis (36.8% vs 15.2%; P<0.05). No other association between age and a definitive B diagnosis was identified (P>0.05). Previous research found similar results \textsuperscript{2}. In contrast, PD severity significantly increased with age (P<0.001). No significant association was identified between PD and balanoposthitis (P<0.05), although the PD Stage 0 group more frequently had a definitive B diagnosis (26.3%) than not (6.3%). No differences in the proportion with a definitive B diagnosis were detected in the mild or severe PD groups. In conclusion, a significant age effect was identified for both B and PD. The authors speculate that age may be related to local irritation as a cause of balanoposthitis. Masturbation or licking of the prepuce and penis may be more common in young dogs, while such behavior may be less common in older dogs due to mouth pain or discomfort from PD or other dental disorders.