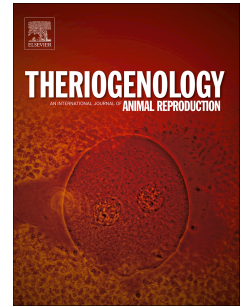


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Computed tomographic pelvimetry in English bulldogs

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1 Computed tomographic pelvimetry in English bulldogs

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15

16 Abstract

17

18 English bulldogs have been reported to have a high incidence of dystocia and caesarean section is often
19 performed electively in this breed. A narrow pelvic canal is the major maternal factor contributing to obstructive
20 dystocia. The objective of this cross-sectional study was to assess the pelvic dimensions of 40 clinically healthy
21 English bulldogs using computed tomography pelvimetry. A control group consisting of 30 non-brachycephalic
22 dogs that underwent pelvic computed tomography was retrospectively collected from the patient archive system.
23 Univariate analysis of variance was used to compare computed tomography pelvimetry of both groups and the
24 effects of weight and gender on the measurements. In addition, ratios were obtained to address pelvic shape
25 differences. A significantly ($P=0.00$) smaller pelvic size was found in English bulldogs compared to the control
26 group for all computed tomography measurements: width and length of the pelvis, pelvic inlet and caudal pelvic
27 aperture. The pelvic conformation was significantly different between the groups, English bulldogs had an
28 overall shorter pelvis and pelvic canal and a narrower pelvic outlet. Weight had a significant effect on all
29 measurements whereas gender that only had a significant effect on some (4/11) pelvic dimensions. Our findings
30 prove that English bulldogs have a generally reduced pelvic size as well as a shorter pelvis and narrower pelvic

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