

## Comparative Evaluation of Lateral Ventricles of Different Dog Breeds using Computed Tomography

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**Introduction:** It is important that variation of normal ventricular anatomy was perceived for diagnosing hydrocephalus. Although variation in the appearance of the lateral ventricles was noted in some dogs, information of ventricular size and shape with respect to breed is still insufficient.

**Material and Methods:** Computed tomography (CT) of cranium was performed on three breed dogs. The size of their lateral ventricles was evaluated at the level of optic canal, interventricular foramen and temporomandibular joint. Hemisphere height (Hh), ventricular height (Vh), hemisphere width (Hw) and ventricular width (Vw) were measured on transverse images and were categorized on the basis of the percentage of their Vh/Hh. Degree of asymmetry was categorized on basis of the ratio of left and right Vh as mild ( $rVH < 1.5$ ), moderate ( $1.5 < rVh < 2$ ), or severe ( $2 < rVh$ ).

**Results:** The mean of Vh, Vw, Vh/Hh, and Vw/Hw was the largest value at the level of interventricular foramen. The mean value of the Vh in Yorkshire terrier, Beagle, and German shepherd dogs was about  $5.5 \pm 2.3$  mm,  $3.3 \pm 1.3$  mm, and  $3.5 \pm 1.4$  mm, respectively. The mean value of the Vh/Hh was about 16 %, 9 %, and 9 % in Yorkshire terrier, Beagle, and German shepherd dogs, respectively. Body weight had no statistical relationship or mild correlation to Vh and Vh/Hh at the level of interventricular foramen in three breed dogs. Severe lateral ventricular enlargement ( $Vh/Hh > 25\%$ ) was observed only in Yorkshire terrier. Most of all dogs had normal or mildly asymmetric lateral ventricles and three in Yorkshire terrier had moderately asymmetric lateral ventricles.

**Conclusion:** The ventricular size of Yorkshire terrier differs significantly from those in the Beagle and German shepherd dogs.

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