J Vet Clin Vol. 24, No. 2(Suppl.) October (2007)

Three-Dimensional CT Reconstruction Imaging of The Middle Ear in Normal Dogs

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Reconstructed three-dimensional computed tomography (3D-CT) provide non-invasive imaging to the complicated structure such as middle ear by post-processing of CT data. To optimize the 3D reformatted CT imaging of canine middle ear, a standardized approach was produced in normal beagle dogs.

Data acquisition was performed using multi-detector row CT in 8 ears of four beagle dogs. And the dataset from each dog was postprocessed with a commercially available software. The ossicular chain as well as the bony and soft tissue structures of the tympanic cavity were visualized well on virtual endoscopy especially. The ear canal, tympanic bulla and auditory tube were distinguished easily. Muscles and nerves however, were not distinguished.

Virtual endoscopic CT images postprocessed by 3D software facilitates understanding of the complex anatomy of the middle ear and could be useful in animal research model as well as in small animal practice.

This study was supported by 2nd stage Brain Korea 21 project.

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