



Clinical Feasibility of CT Brain Perfusion in a Dog with Sellar Region Tumor

Minji Kim¹
Gunha Hwang¹
Jeongmin Ryu¹
Jiwon Yoon¹
Moon Yeong Choi²
Joong-Hyun Song³
Tae Sung Hwang^{1,*}
Hee Chun Lee^{1,*}

¹Institute of Animal Medicine, Department of Veterinary Medical Imaging, College of Veterinary Medicine, Gyeongsang National University, Jinju 52828, Korea

²Yangsan S animal cancer center, Yangsan 50638, Korea

³College of Veterinary Medicine, Chungnam National University, Daejeon 34134, Korea

*Correspondence: hwangts@gnu.ac.kr (Tae Sung Hwang), lhc@gnu.ac.kr (Hee Chun Lee)

ORCID

Minji Kim:

<https://orcid.org/0000-0001-8100-7009>

Gunha Hwang:

<https://orcid.org/0000-0002-1805-9137>

Jeongmin Ryu:

<https://orcid.org/0000-0002-6135-4086>

Jiwon Yoon:

<https://orcid.org/0000-0002-1483-4482>

Moon Yeong Choi:

<https://orcid.org/0000-0001-5069-0714>

Joong-Hyun Song:

<https://orcid.org/0000-0001-9961-6451>

Tae Sung Hwang:

<https://orcid.org/0000-0001-6730-6061>

Hee Chun Lee:

<https://orcid.org/0000-0001-5936-9118>

Copyright © The Korean Society of Veterinary Clinics

Abstract A 10-year-old spayed female Poodle was referred for blindness. On ophthalmic examination, loss of bilateral ocular pupil light reflex, visual loss, and right retinal detachment were confirmed at a local hospital. Magnetic resonance imaging (MRI) of the brain was performed to identify the optic nerve, optic chiasm, and brain disease. A sessile mass centered on the region of the optic chiasm was identified. The mass had iso- to hypointense on fluid-attenuated inversion recovery and T2-weighted images and mildly hypointense on T1-weighted images compared to the gray matter, with strong contrast enhancement. Peripheral edema was also identified. Computed tomography (CT) brain perfusion was performed to obtain additional hemodynamic information about the patient using a multislice CT. CT perfusion showed that the cerebral blood volume in the left temporal lobe region (13.4 ± 1.6 mL/100 g) was decreased relative to the contralateral region (19.9 ± 0.3 mL/100 g). The patient showed decreased appetite and consciousness one week after the CT scan with clinical symptoms worsened. The patient had seizure, tetraparesis, and loss of consciousness. It was euthanized one month later at the request of the owner. This report suggests that CT brain perfusion can provide additional hemodynamic information such as insufficient brain perfusion in sellar region tumor which can help assess potential complications and prognosis and plan treatment.

Key words cerebral blood volume, CT perfusion, dog, sellar tumor.

Received March 15, 2024 / Revised April 19, 2024 / Accepted May 12, 2024



This is an open access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.