

POUNDing score of Intracranial Lipomas

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Author contribution

TS wrote and drafted the manuscript. YA, KI, and RI helped draft the manuscript. All authors read and approved the final manuscript.

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The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy and ethical considerations.

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Key clinical message

Most intracranial lipomas are asymptomatic, but headache is the most common symptom. The POUNDing score is sometimes high. Therefore, it is necessary to monitor imaging findings in parallel with the treatment of migraine.

Clinical picture

A 29-year-old woman presented to the emergency department with a 2-month-old headache. Her headache was a unilateral throbbing headache like she had never experienced before. Her headache lasted more than 4 hours and was accompanied by vomiting. Otherwise, she had no abnormal neurological findings. She has a history of obsessive-compulsive disorder. She is on regular oral paroxetine hydrochloride and clonazepam. She gained 30 kg weight in 4 years. So far, she has not seen a doctor because of her headache, although she has acknowledged it many times. She was conscious, had blood pressure 120/80 mmHg, pulse 60/beat, body temperature 35.0°C, pupil 5 mm/5 mm, and bilateral light reflex. No neck stiffness or unconsciousness was noted in her. Her blood tests showed no abnormalities. She underwent a head CT to rule out subarachnoid hemorrhage. Her head CT showed no intracranial hemorrhagic lesions. However, she had bilateral lateral ventricles and low-density structures in the right ventricle. CT values ranged from -20 to -80. When the head CT was set to the condition of the lung field, it was visually confirmed that it was not air (Fig. 1A). As a result, she was diagnosed with an intraventricular lipoma. The POUNDing score was 5 points, suggesting the possibility of migraine.¹ After her symptoms improved with analgesics, she was sent home for outpatient follow-up. Intracranial lipoma is a rare benign tumor. Most are located in the midline within the cranium. Lipomas around the corpus callosum are associated with the hypomorphic and amorphic of the corpus callosum. Many cases are asymptomatic, with headache being the most common symptom. It is often found incidentally on head CT. Intracranial lipomas with headaches are found not only in the ventricle but also in other sites.² At first glance, it can be mistaken for air mixed in the skull. When the CT value is measured, it shows a numerical value from 0 to -100 and is diagnosed as adipose tissue. It is rarely removed by surgery and is observed. The pounding score is a scale for diagnosing migraine. There are no reports of its use for intracranial lipoma. In our case, lipomas were found in the proper and third ventricles, and the right ventricle was more significant than the left (Fig. 1B). Headache due to intracranial lipoma was also considered. Still, from the result of the POUNDing score, it was diagnosed as a headache due to a migraine. Intracranial lipomas that have complained of headaches may include cases of migraine. Therefore, even if the intracranial lipoma is diagnosed, measuring the POUNDing score and differentiating migraine is necessary. On the other hand, the causal relationship between intracranial lipoma and headache has not

been elucidated. For this reason, even if symptoms improve with analgesics, follow-up imaging is necessary when ventricular laterality, giant lipoma, and unexplained headache persist.

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Figure 1AB Head CT

Upper row: A is a lipoma in the right ventricle and B in the third ventricle. (white arrow)

Lower row: It can be confirmed that both A and B are not air under lung field conditions. (black circle)

