

탈륨-201 SPECT에서 뇌농양 집적

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Brain Abscess Uptake at Tl-201 Brain SPECT

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A 22-year-old woman with a history of acute lymphoblastic leukemia was hospitalized for headache and vomiting. CT scan showed a well-defined, ring like enhancing mass in the left frontal lobe with surrounding edema and midline shift. Magnetic resonance imaging demonstrated a round homogeneous mass with a ring of enhancement in the left frontal lobe. Tl-201 brain SPECT showed increased focal uptake coinciding with the CT and MRI abnormality. Aspiration of the lesion performed through a burr hole yielded many neutrophils, a few lymphocytes and histiocytes with some strands of filamentous microorganism-like material. Modified AFB stained negative for norcardia. Gram stain showed a few white blood cells and no microorganism. Antibiotics were started and produced a good clinical response. After one month, CT scan showed markedly reduction in size and extent was observed. (Nucl Med Mol Imaging 2007;41(4):339-341)

Key Words: Tl-201, MRI, MRS, brain abscess

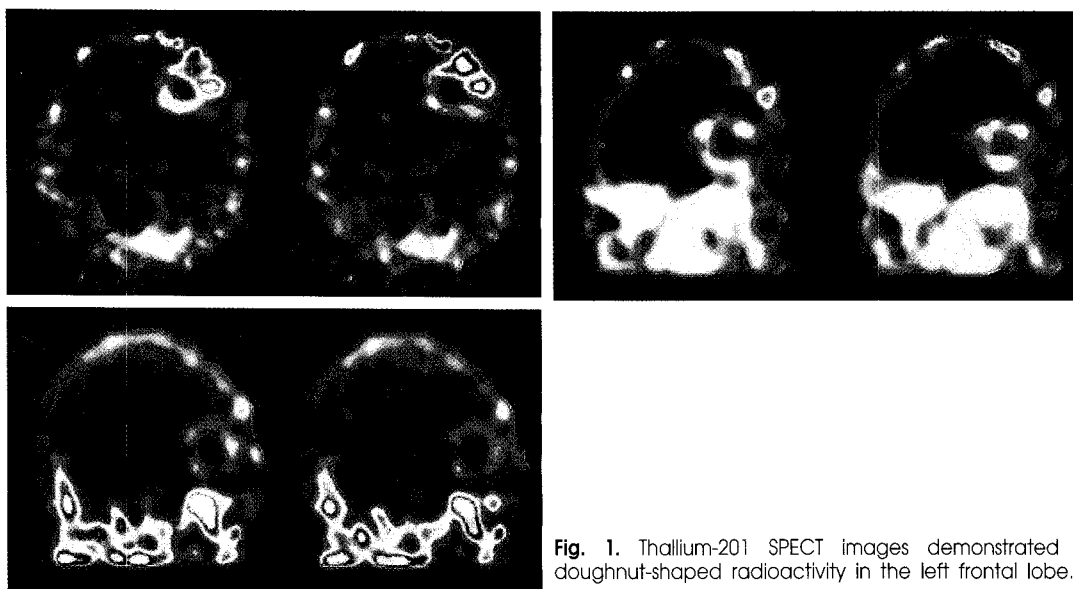


Fig. 1. Thallium-201 SPECT images demonstrated a doughnut-shaped radioactivity in the left frontal lobe.

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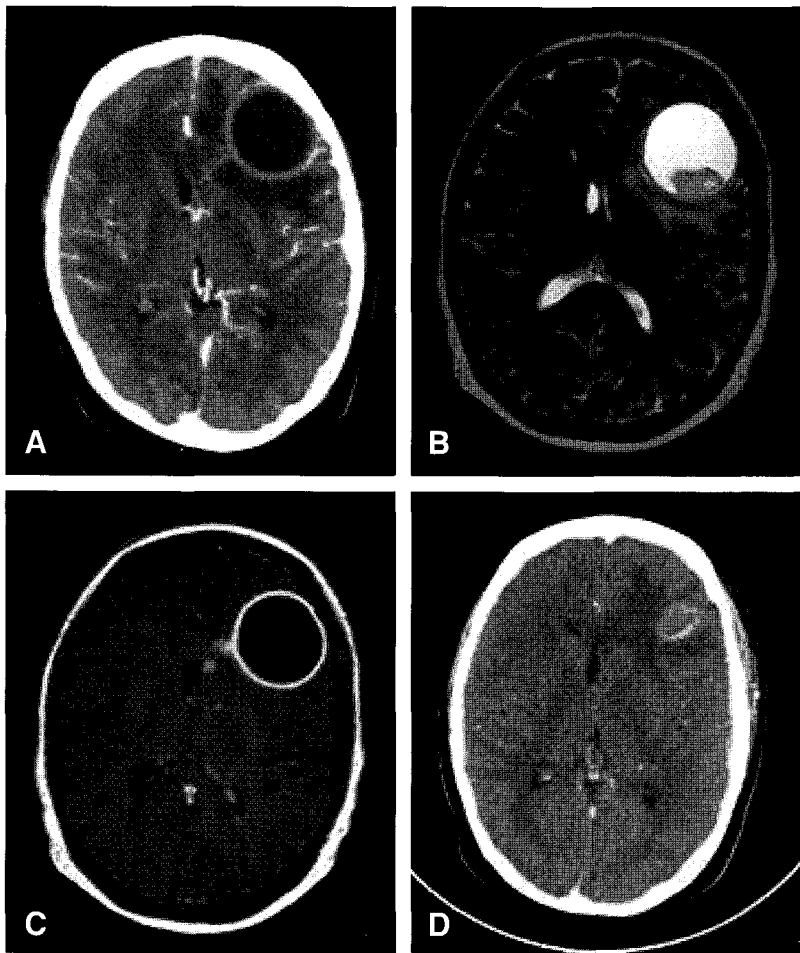


Fig. 2. (A) On contrast enhanced CT, a well defined ring like enhancing mass is noted in the left frontal lobe with surrounding edematous white matter and midline shift due to mass effect of the lesion. (B) On T2-weighted image, this mass shows homogeneous bright signal intensity with an intermediate signal intensity nodule at the posterior portion of the mass. (C) After infusion of Gd-DTPA, ring enhancement is noted also along the mass wall, like the contrast enhanced CT on enhanced T1-weighted image. (D) After 1 month of appropriate antibiotic therapy, this mass decreased markedly in size and extent, thus reflect infectious nature of the lesion.

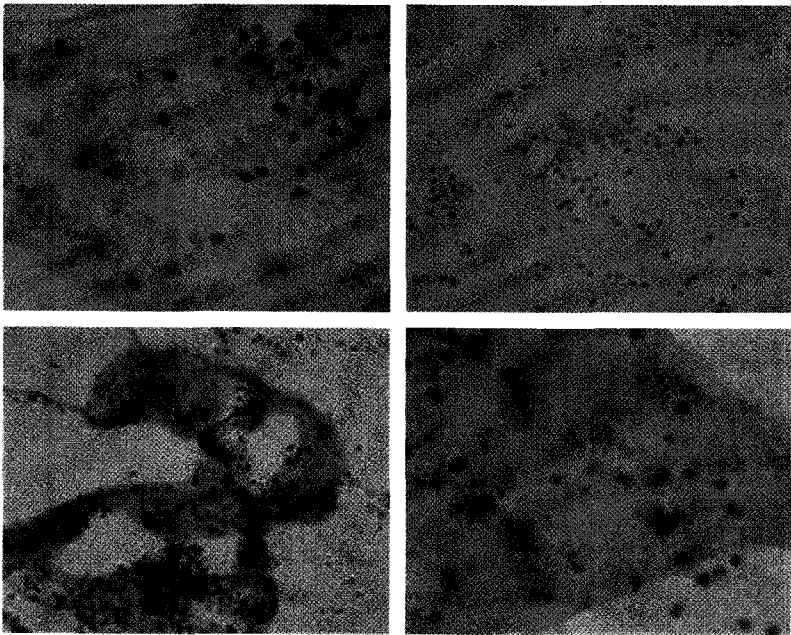


Fig. 3. The cytology of brain tissue shows many neutrophils, a few lymphocytes, and histiocytes with some strands of filamentous microorganism-like material, and thus proved negative for malignancy.

References

1. Licho R, Litofsky NS, Senitko M, et al: Inaccuracy of Tl-201 brain SPECT in distinguishing cerebral infections from lymphoma in patients with AIDS. *Clin Nucl Med* 2002;27:81.
2. Garcia-Morales F, Chengazi VU, O'Mara RE: Nocardia brain abscess identification with Tl-201 SPECT. *Clin Nucl Med* 2001;26:981.
3. Skiest DJ, Erdman W, Chang WE, et al: SPECT thallium-201 combined with Toxoplasma serology for the presumptive diagnosis of focal central nervous system mass lesions in patients with AIDS. *J Infect* 2000;40:274.
4. Ruiz A, Ganz WI, Post MJ, et al: Use of thallium-201 brain SPECT to differentiate cerebral lymphoma from toxoplasma encephalitis in AIDS patients. *Am J Neuroradiol* 1994;15:1885.