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Increased Uptake of ^{67}Ga-citrate in Cerebral Infarction

Koichi MORITA, Shimato ONO, Nobuaki OTSUKA, Kiyohisa NAGAI, Masashi OKUNO*, Shigeru TANAKA*, Kazuo NAKAKITA*, Akitsugu KOHAMA* and Masao FUKUNAGA

Department of Nuclear Medicine,
**Department of Emergency Medicine,*
Kawasaki Medical School, Kurashiki 701-01, Japan

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ABSTRACT. ^{67}Ga-citrate has been widely used in the detection of malignancy and inflammation. We presented a case of cerebral infarction with increased uptake of ^{67}Ga-citrate.[1-3] Although it is reported that ^{67}Ga-citrate was accumulated in cerebral infarction, this finding is must be kept in mind in differential diagnosis between cerebral infarction and cerebral neoplasms or infectious diseases.

Key words : cerebral infarction — ^{67}Ga-citrate

A 39 year-old man was admitted our hospital because of right hemiplegia and dysarthria. X-CT showed a low density area (LDA) in the left cerebral hemisphere, which corresponded to the territory of the left middle cerebral artery

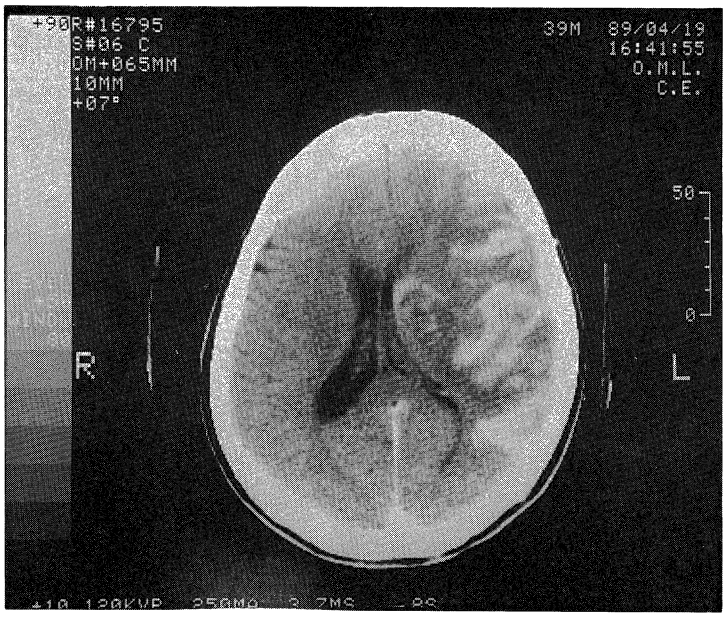

Fig 1. X-CT with contrast media showed significant enhancement in the left cerebral hemisphere.

森田浩一，小野志磨人，大塚信昭，永井清久，奥野雅史，田中　茂，中北和夫，小浜啓次，福永仁夫

(MCA). It revealed complete occulusion of the left carotid artery and collateral circulation to the left MCA via anterior communicating artery in cerebral angiography. He was diagnosed as cerebral infarction and concervatively treated. X-CT with contrast media obtained at the 11th day of the admission showed a mass effect and contrast enhancement in the left cerebral hemisphere (Fig. 1), which indicated the destruction of blood-brain-barrier (BBB).

The 14th day of admission, scintigraphy using ^{67}Ga-citrate was performed because of continuous low grade fever with positive CRP and acsentuation of ESR. The planar image using ^{67}Ga-citrate showed increased accumulation of the tracer in the left cerebral hemisphere. Single photon emission CT (SPECT) using ^{67}Ga-citrate showed increased accumulation of the tracer in the left hemisphere (Fig. 2), which corresponded to the contrast enhanced area on X-CT. Although it is not clear the precise uptake mechanism of ^{67}Ga-citrate in cerebral infarction, the destruction of BBB might play a role in the uptake of ^{67}Ga-citrate inthe lesion.

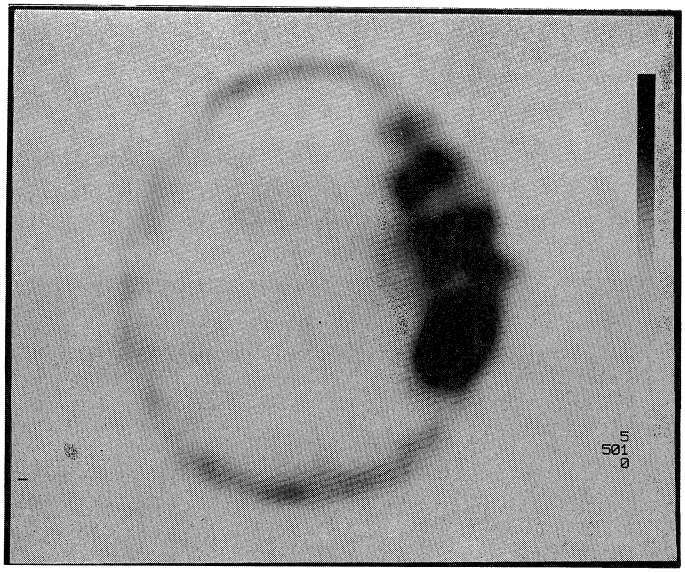

Fig 2. SPECT using ^{67}Ga-citrate showed increased uptake of the tracer in the left hemisphere, which corresponded to the contrast enhanced area on X-CT.

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