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九州大学大学院医学研究院 臨床放射線科学分野

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20' s female

CC: LOC, Left hemiparesis **PH:** Unremarkable

PI: 11 days after delivery via C/S, the patient presented with LOC after the left hemifacial spasm. She discharged after steroid Tx (1st admission).

1 year after the 1st admission, the patient complained HA and nausea. 4 days after these symptoms, the patient was admitted to our hospital with LOC, aphasia and right L/E weakness (2nd admission).

Laboratory data

【CBC】

RBC $341 \times 10^4 / \mu\text{L}$, **Hb** 9.8 g/dL, **Htc** 30.4%

【Coagulation】

FDP 9.1 $\mu\text{g/mL}$, **D-dimer** 4.2 $\mu\text{g/mL}$

【Chemistry】

TP 5.8 g/dL, **ALB** 3.1 g/dL, **AST** 12 U/L, **LDH** 256 U/L,

γ -GTP 8 U/L, **CRP** 0.12 mg/dL, **Cl** 110 mmol/L, **Ca** 8.6 mg/dL

【Infection】

HTLV-I (+)

【Tumor marker】

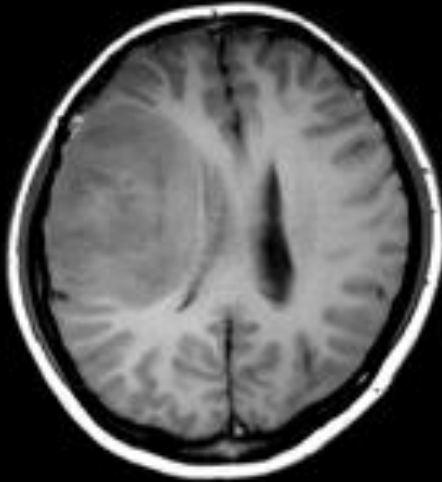
sIL-2R 2002.8 U/mL

1st admission

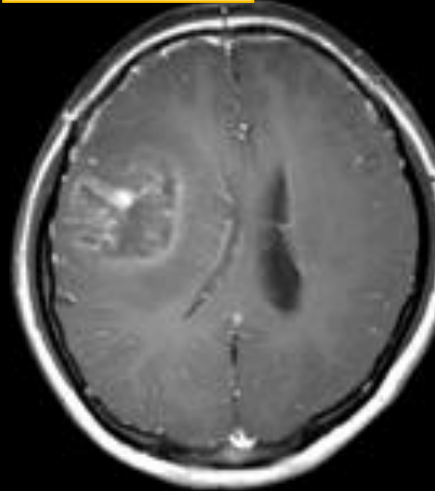
CT



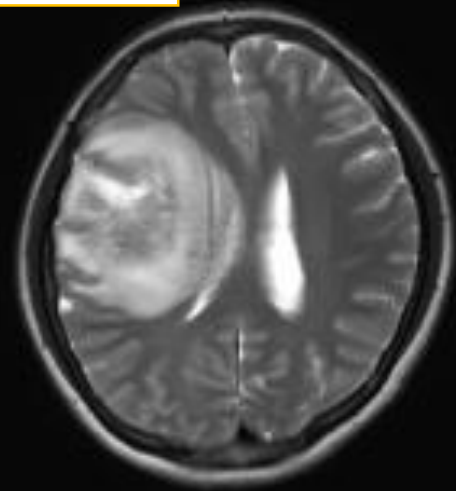
T1WI



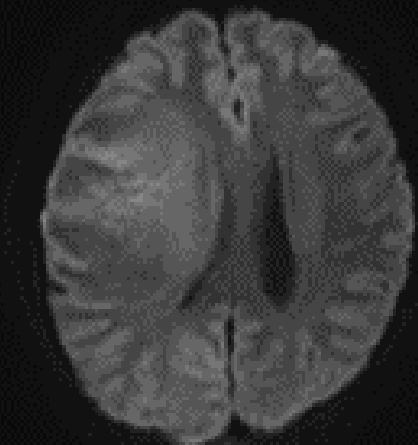
CE-T1WI



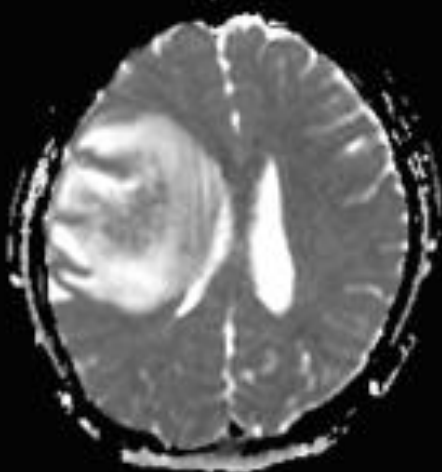
T2WI



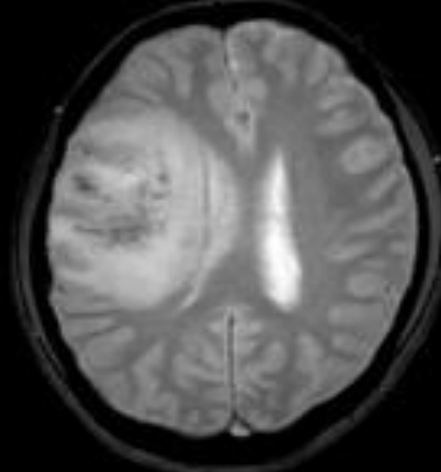
DWI (b=1000)



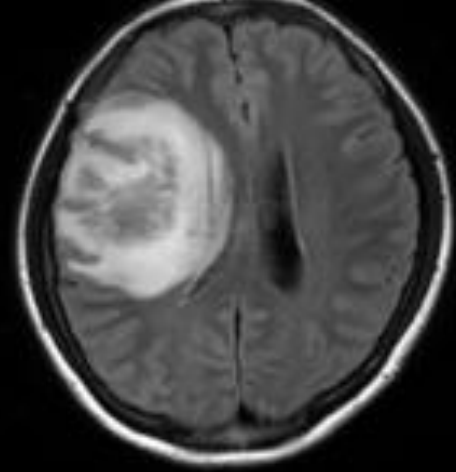
ADC map



T2 * WI



FLAIR

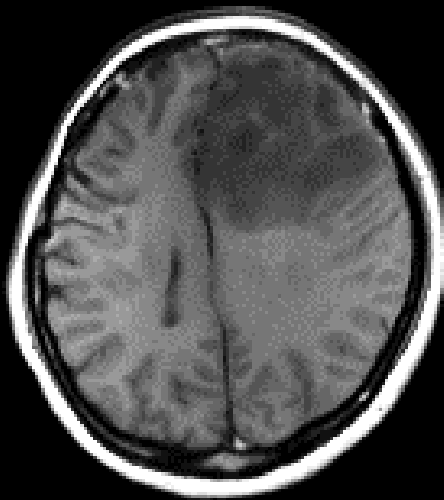


2nd admission

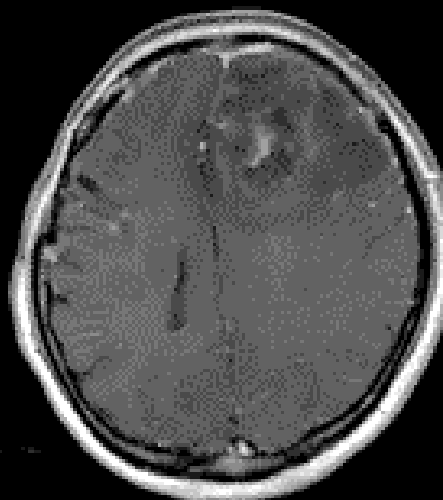
CT



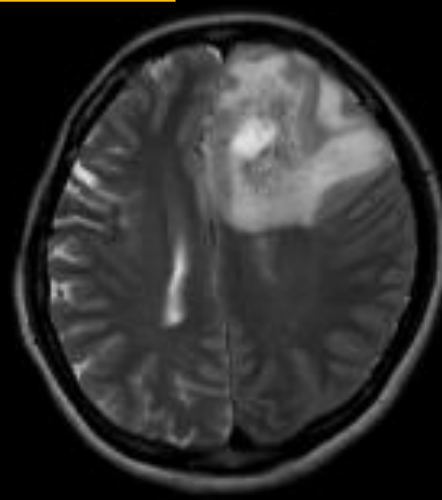
T1WI



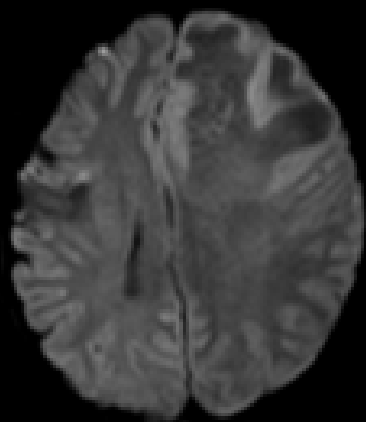
CE-T1WI



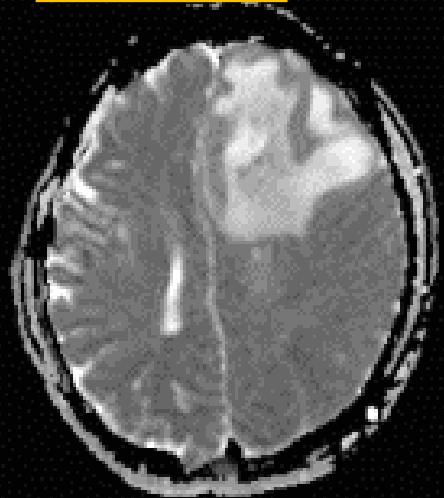
T2WI



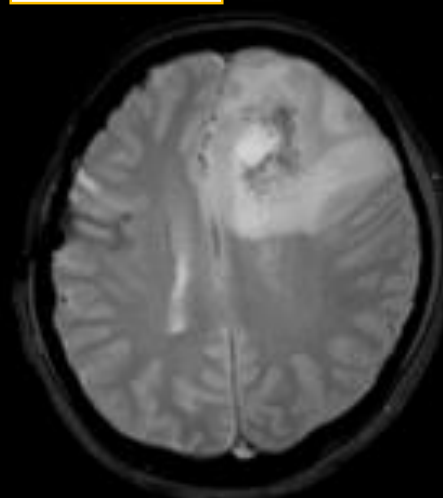
DWI (b=1000)



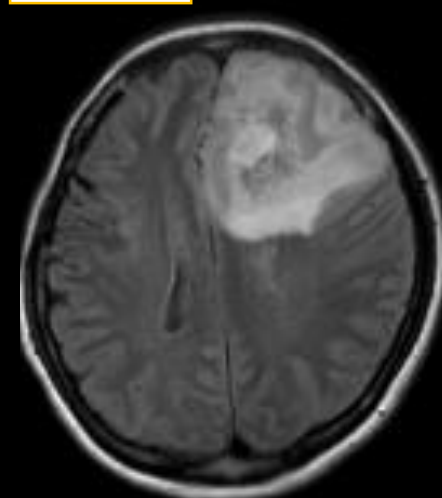
ADC map



T2 * WI



FLAIR



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Radiological findings

1st admission:

Heterogeneously enhancing mass in the right frontal and parietal lobes

Restricted diffusion (–), **Microbleeds (+)**, Calcification (–)

Sinus thrombosis/cortical venous thrombosis (–)

Leptomeningeal enhancement (+)

2nd admission:

Heterogeneously enhancing mass in the left frontal lobe

Restricted diffusion (–), **Microbleeds (+)**, Calcification (–)

Sinus thrombosis/cortical venous thrombosis (–)

DDx

- Cerebral venous infarction
- Primary angitis of the CNS (PACNS)
- Tumefactive MS
- Primary CNS lymphoma (PCNSL)
- Lymphomatoid granulomatosis (LYG)
- ATL in CNS
- GBM
- Progressive multifocal leukoencephalopathy (PML)

Dx

Adult T-cell leukemia/lymphoma
involving central nervous system
(ATL in CNS)
(smoldering type)

> Lymphomatoid granulomatosis (LYG)

ATL in CNS

- 10–25% of ATL Pts show CNS involvement
- Controversy between ATL in CNS and LYG

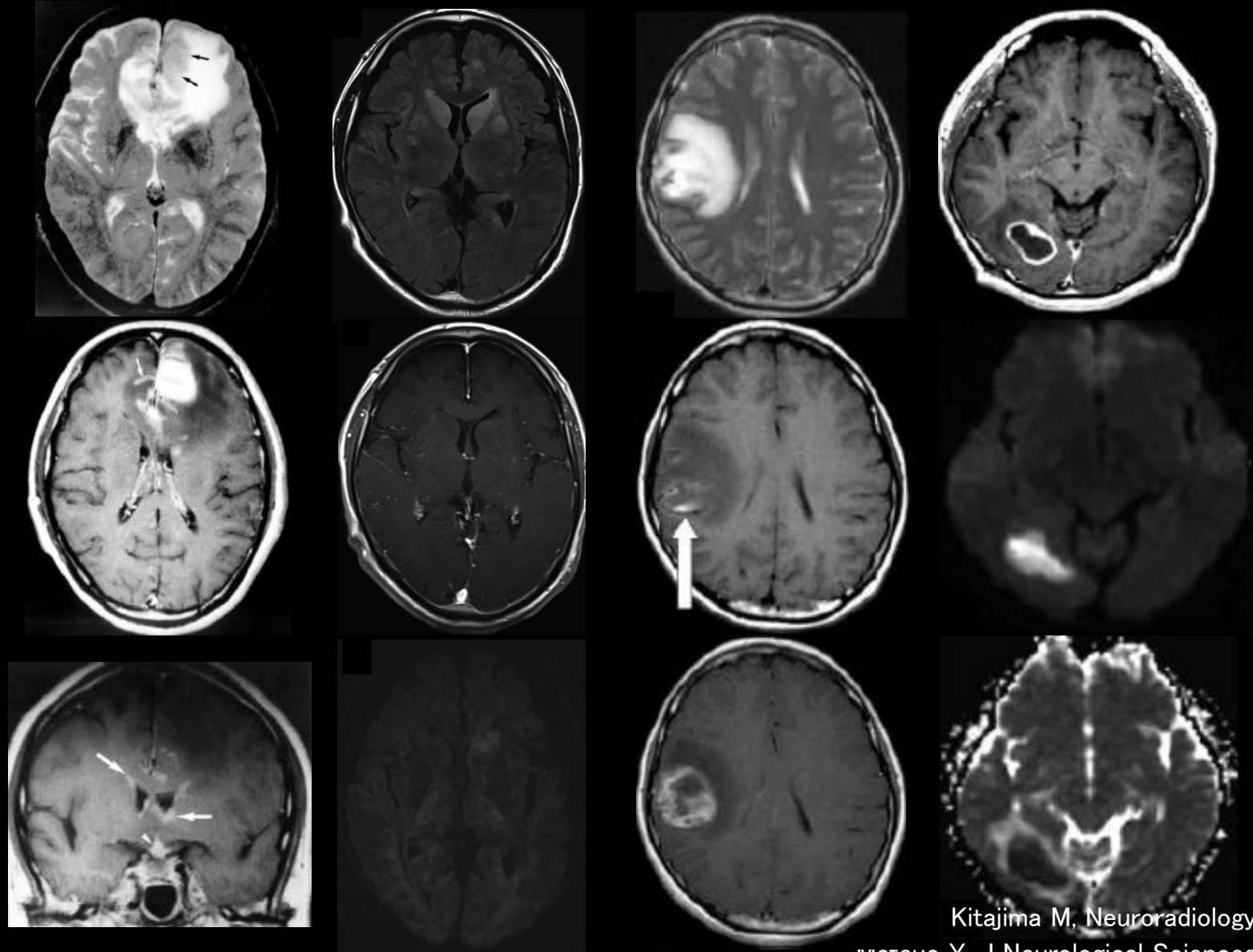
	ATL	LYG
Proliferation	T-cell	B-cell
Feature	Aggressive	Mild to aggressive
Steroid responsive	Poor	Effective
Virus infection	HTLV-I	EBV
Prognosis	Poor	Fair to poor

- ATL is a monoclonal neoplasm of CD4 helper T-cells.

ATL in CNS

- Findings:
 - Mostly **Supratentorial**
(GM 20%, **WM 13%**, CC 10%, BG 17%, thalamus 17%, leptomeninges 3%)
 - **Solitary 56%**, Multiple 44%; **infiltrative** > circumscribed
 - Tumor infiltration along nerve fibers
 - T1WI hypo/iso, T2WI hyper/iso,
DWI hyper, ADC increase/iso
 - Contrast Enhancement; rim 71%, **hetero 14%**, homo 14%
 - Calcification; rare
 - **Hemorrhage; 71%**
 - Spinal cord involvement; 5%

ATL in CNS



Kitajima M, Neuroradiology 2002
matsuo Y, J Neurological Sciences 2013
Kim E Y, Acta Radiol 2005