

Leptomeningeal Carcinomatosis Combined with Capecitabine-induced Central Neurotoxicity

Hyun Chul Lee, Ho-gak Kim, Dong Wook Lee, Jimin Han

Department of Internal medicine, Catholic University of Daegu School of Medicine, Daegu, Korea

1. Case presentation

63세 남자 환자로, 2015년 2월경 pancreatic cancer로 진단 Whipples operation 시행하였으며, 그 후 adjuvant chemotherapy 시행하였으며, f/u CT 상 cancer progression 보여 Capecitabine을 포함한 2nd line CTx 중 seizure를 동반한 의식소실로 타병원에서 intubation 후 내원하였다.

2. Diagnosis:

Leptomeningeal Carcinomatosis Combined with Capecitabine-induced Central Neurotoxicity

3. Therapy and Clinical course

Capecitabine을 stop하고 conservative Treatment 시행한 후 의식 회복되었으며, TS-1으로 regimen change하여 퇴원하였다.

4. Conclusion

Capecitabine Chemotherapy 중 central neurotoxicity의 부작용을 주의하여야 한다.

Key words: Capecitabine, Leptomeningeal carcinomatosis, Central neurotoxicity

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• M/63, 차 ○ 길

• **Chief complain**

- Stuporous mentality for a day

Pancreatic cancer

- 2015/02/15 Abd CT diagnosed r/o pancreatic head cancer
- 2015/02/24 Whipples operation

Pancreas, head : Adenocarcinoma, poorly differentiated
Common bile duct, middle, resection : Adenocarcinoma, direct invasion
Small intestine (duodenum including AoV) : Adenocarcinoma, direct invasion
Gallbladder : No tumor invasion
→ **All surgical margin** : Free from tumor
Lymphovascular invasion : Absent
Regional lymph nodes : Metastatic adenocarcinoma, (4/8)
Perineural invasion : Present

- **Adjuvant chemotherapy**
 - 2015/03/21 (C1D1) ~ 2016/05/05 (C15D15)
 - regimen : Gemcitabine (1,779 mg) / Erlotinib (100 mg)

2016/06/25 F/U CT

- F/U CT was done after finish Adjuvant Chemotherapy (L1C15D15)

Biliary pancreas dynamic CT

0.9 cm sized hypodense mass at resection margin,
Prominent soft tissue density around Celiac trunk ,
➡ **Suggesting recurrent tumor.**

2016/04/21 Biliary pancreas CT



2016/06/25 Biliary pancreas CT

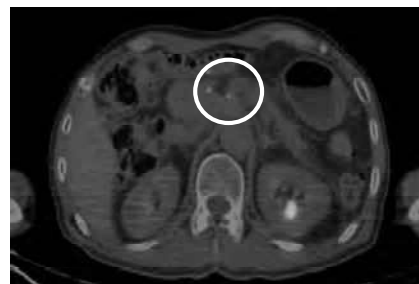


2016/06/30 PET

- Further evaluation was done by PET CT

PET CT

Celiac trunk 주변의 soft tissue density, pancreas의 operation site, mesenteric and abdominal para-aortic lymph nodes에 mild FDG uptake (SUVmax 1.67) 관찰됨. 섭취 정도는 낮지만 high blood glucose state임을 고려시 **recurrence with node metastasis** 가능성 있겠음.



2nd line Chemotherapy

- **2nd line chemotherapy**
 - 2016/06/30 (L2C1D1) ~
 - Regimen : Capecitabine (3,300 mg) / Oxaliplatin (231 mg)
- **2016/07/13 (13 days after Capecitabine start)**
 - Perceptive disorder developed
 - stopped Capecitabine
- **2016/07/14 (1 day after Capecitabine stop)**
 - Stupor mentality developed
 - visit other hospital, **GTC type seizure** (1 minutes) observed.
 - Brain CT, Brain MRI : no acute lesion such as hemorrhage or infarction



Transferred to our hospital after intubation

On day admission

- **Vital signs**
 - **Blood Pressure : 90/60 mmHg**
 - Body Temperature : 36.5°C
 - **Heart Rate : 110/min**
 - Respiratory Rate : 21/min
- **Review of System**
 - **Neurologic**
 - Fainting / paralysis (- / -)
 - Numbness / Tingling / Tremor (-/-/-)
 - Dysarthria (+, 2 days)**
 - **Otherwise : Unremarkable**

On day admission_P.Ex

- **General appearance**

Acute ill-looking appearance

Stupor mentality : GCS E1 V1t M5 → 7t

- **HEENT**

Skull deformity/scar (-/-)

Pupil size 4 mm/4 mm

Light reflex (+/+)

Not palpable neck mass

- **Abdomen**

Soft & flat

Organomegaly (-)

LLQ Tenderness (+)

Rebound tenderness (-)

No palpable mass

On day admission

- **PHx.**

– Pancreatic cancer s/p whipples operation (2015/02/25)

– Old cerebral infarction

– DM

- **FMHx.**

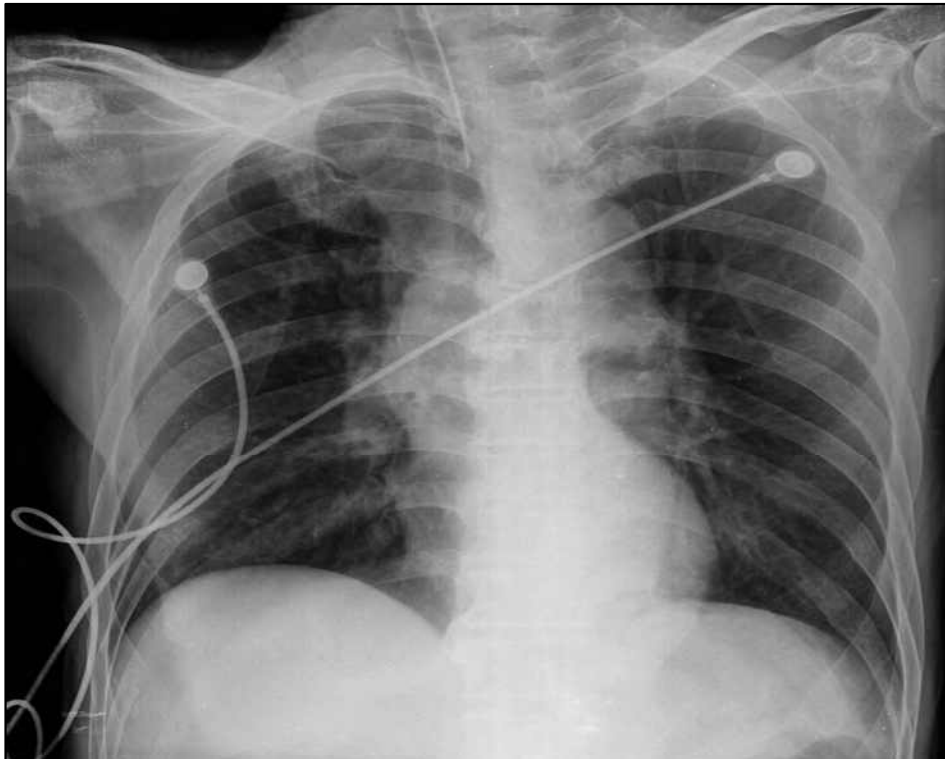
– Unremarkable

- **SHx.**

– Alcohol / Smoking (-/-)

Laboratory finding

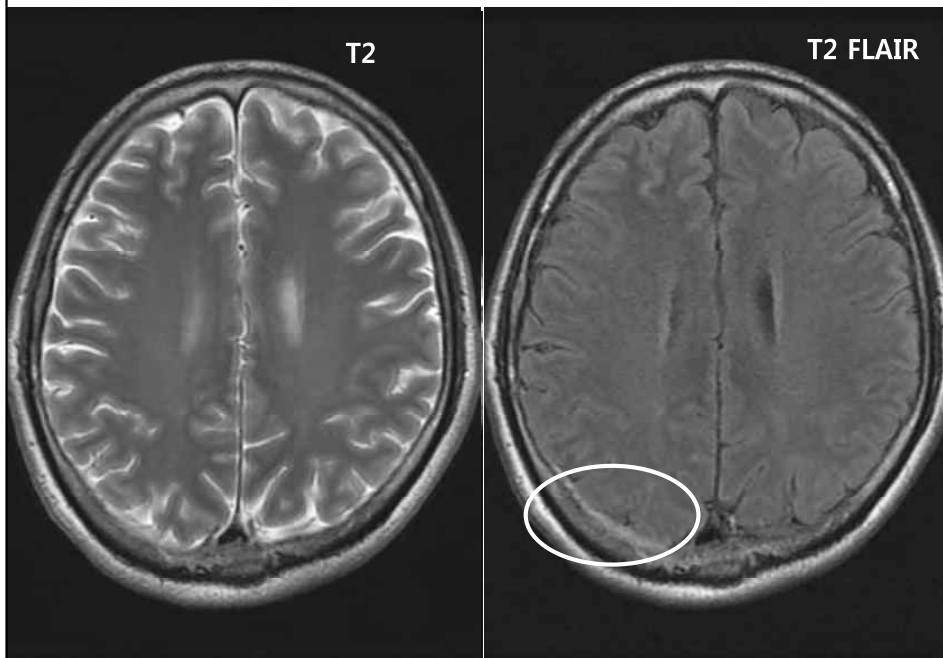
CBC		Chemistry		ABGA	
WBC	15,500	AST/ALT	28/11	PH	7.410
Hb	12.9	T-bil	0.3	pCO ₂	30.2
Plt	230 K	GGT	17	pO ₂	48.4
		ALP	88	HCO ₃	18.7
		Bun/Cr	11.2/0.9	O ₂ sat	85
		Na/K/Cl	137/4.7/98		
		PT/aPTT	13.8/56.1		
		CRP	1.1		
		Glucose	316		
		CA 19-9	921		



Progress Note

- 2016/07/14 (1 day after Capecitabine stop)
 - Stupor mentality state.
 - Intubation state, Midazolam 60 mg IV mix continuous for 24 hrs
 - At 23 PM, Eye opening response to pain
 - Take Brain Enhanced MRI

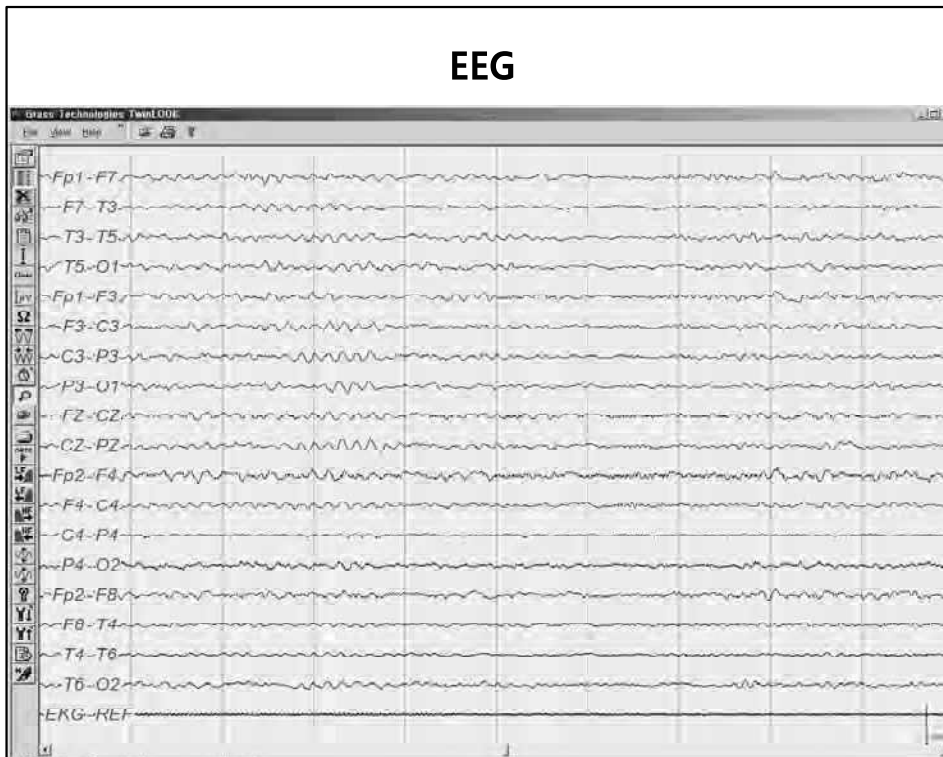
2016/07/14 Brain MRI

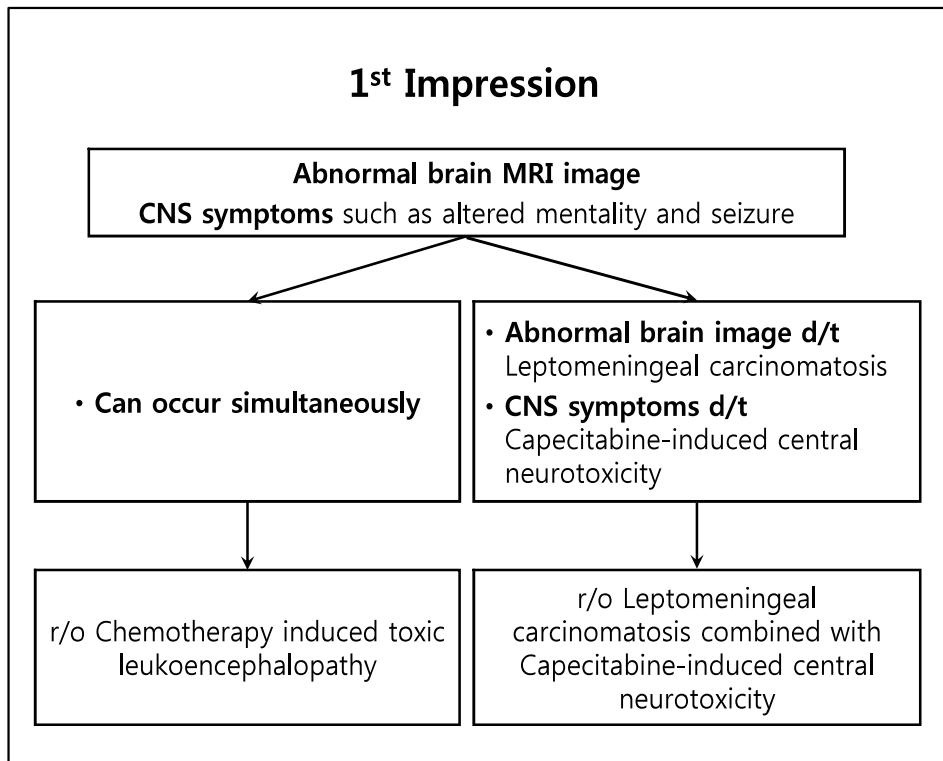


Progress Note

- 2016/07/15 (2 days after Capecitabine stop)
 - AM 11 Drowsy mentality
 - PM 14 Obey on simple verbal order
 - PM 18 Extubation, Nasal O2 5 L apply
- 2016/07/16 (3 days after Capecitabine stop)
 - Alert mentality
 - EEG (7/14) : Epileptiform discharge (-), Cerebral dysfunction (+)

EEG



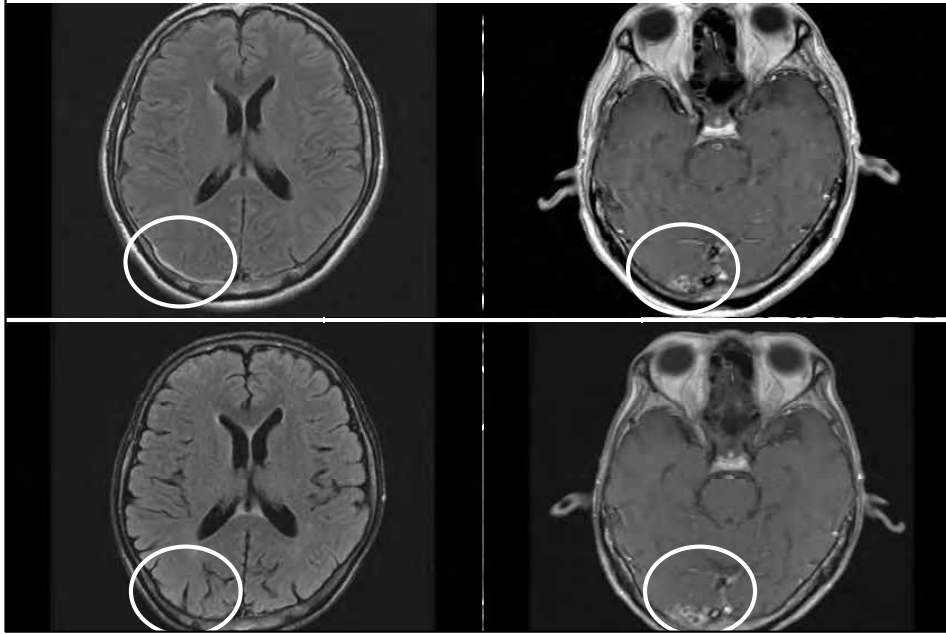


Progress Note

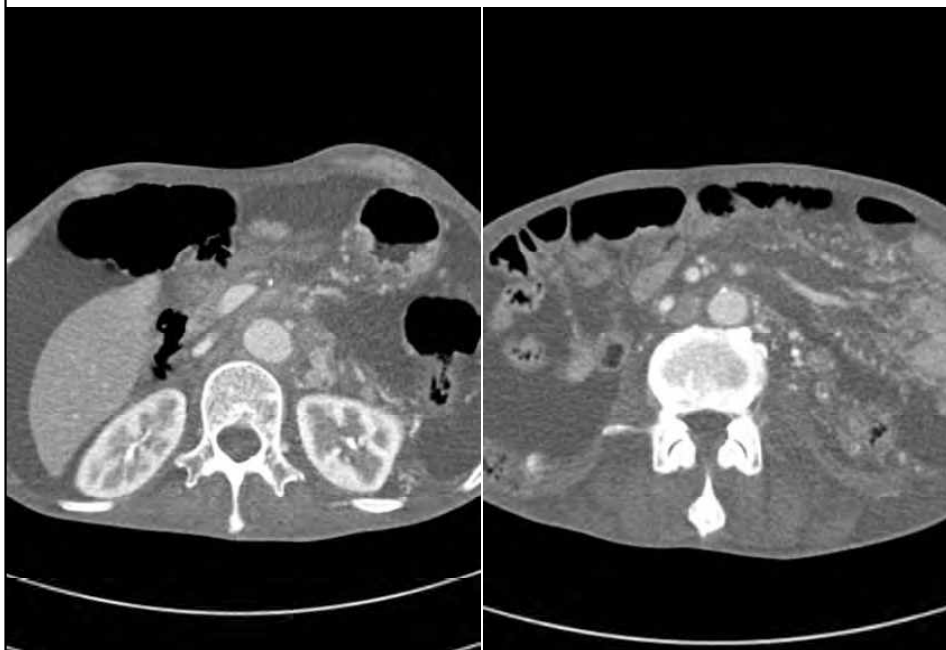
- **2016/07/18 (5 days after Capecitabine stop)**
 - Alert mentality
 - Clopidogrel Hold d/t SHD on Brain MRI

- **2016/07/19 (7 days after Capecitabine stop)**
 - TS-1 start
 - Discharge

**F/u Brain MRI 2016/11/18
(compared with previous Brain MRI)**



2016/11/18 f/u CT



Final diagnosis

Leptomeningeal carcinomatosis combined with

Capecitabine-induced central neurotoxicity

MEMO

MEMO