Neoadjuvant Chemotherapy in Bordeline Resectable Pancreatic Cancer

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M/73

Chief complaint

Abdominal pain (6MA)

Present illness

Previous healthy, 6개월 전부터 whole abdomen pain 있었음. 다른 증상 없어 참고 지냈으나 증상 지속되어 outside hospital 방문 후 pancreatic cancer 의심된다고 듣고 F/E 및 Mx. 위하여 본원 방문함.

PMHx, SHx & FHx

HTN/DM/Tbc/CLD (-/-/+/-), alcohol/smoking (-/-), denial of cancer history

LFT and Tumor marker

LFT 131 mg/dL - 7.8/4.4 g/dL - 0.7 mg/dL - 78 IU/L - AST/ALT 25/17 IU/L - 18 IU/L

CEA 2.3 ng/mL, CA 19-9 2510 U/mL

Work Up

Outside Abd. CT (2010. 10. 25)

Encase splenic artery and splenic vein, retropancreatic fat infiltration

Possible SMA direct invasion

R/O ductal adenocarcinoma of pancreas body

EUS (2010. 11. 8)

Pancreatic body cancer, Successful EUS-guided FNA

Hospital Course

Borderline resectable pancreatic cancer로 neoadjuvant chemotherapy 시작함.

Gemcitabine + Erlotinib chemotherapy #1 - #3 (2010. 11. 12 - 2011. 1. 25)

Abd. CT (2011. 1. 25)

Interval decreased the extent of enhancing mass lesion in the pancreas body

Abd. CT (2011. 4. 21)

Decreased size of pancreatic mass in the body.

Gemcitabine ++ Erlotinib chemotherapy #4 - #6 (2011. 2. 1 - 2011. 4. 21)

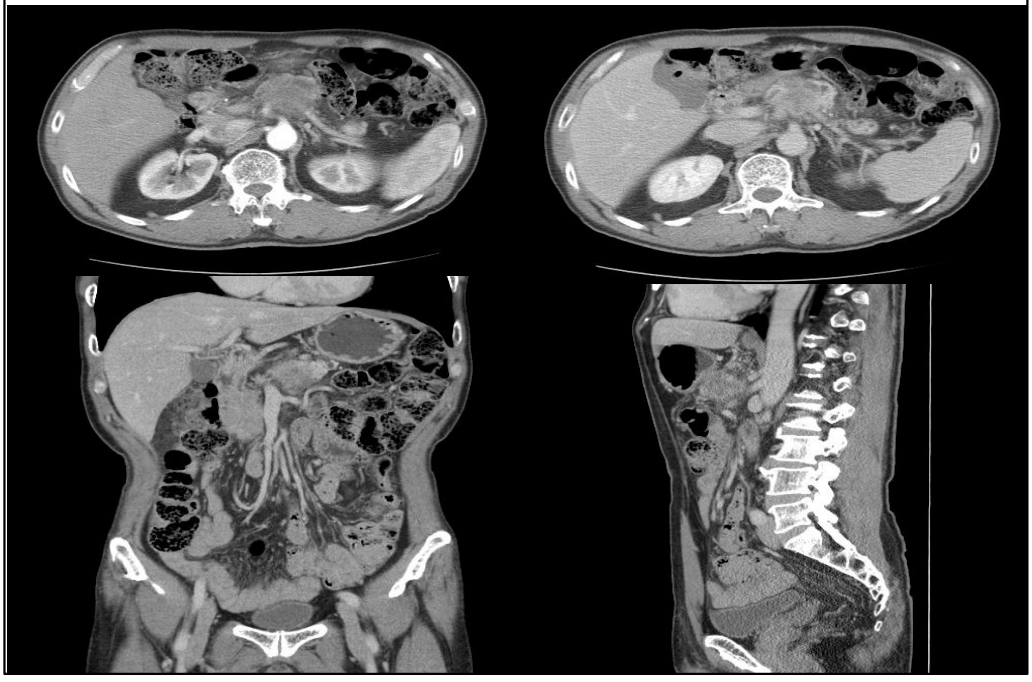
환자 수술 결정 못하여 Gemcitabine + Erlotinib chemotherapy #7 (2011. 4. 28 - 2011. 5. 25) 시행 후, 설득하여 Subtotal pancreatectomy (2011. 6. 7) 시행함.

항 목	10/11/2	11/1/3	11/2/1	11/3/3	11/3/28	11/4/21	11/5/25	11/6/14
CEA	2.3	40.6						1.2
CA-19-9	2510	104	48.5	25.9	12.2	8.9	7.3	8.9
	Gem+ERL#1		Gem+ERL#3, CT			Gem+ERL#6, CT	Gem+ERL#7	OP

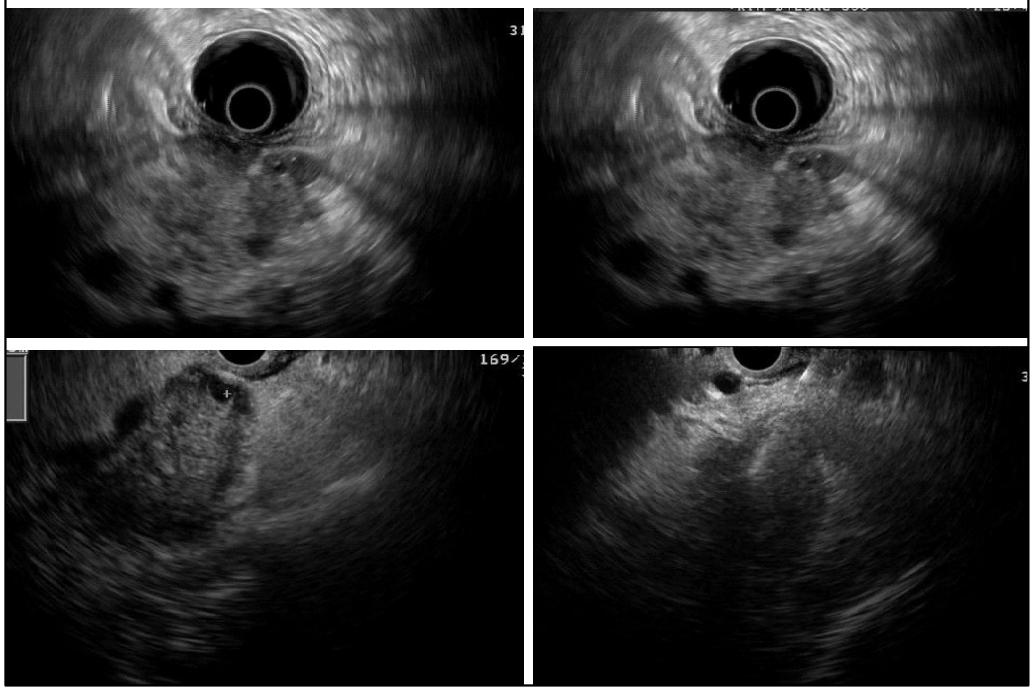
Case Presentation

- M/73
- Chief complaint
  - Abdominal pain (since 6 month ago)
- Present illness
  - previous healthy, 6개월 전부터 whole abdomen pain 있었음. 다른 증상 없어 참고 지냈으나 증상 지속되어 outside hospital 방문 후 pancreatic cancer 의심된다고 듣고 F/E 및 Mx. 위하여 본원 방문함.
- PMHx &, SHx
  - Old Tbc (40YA), Alcohol (-)/Smoking (-)
- PE & ROS
  - 특이사항 없음
- Lab
  - LFT 131 mg/dL– 7.8/4.4 g/dL – 0.7 mg/dL – 78 IU/L - 25/17 IU/L
  - CEA 2.3 ng/mL, CA 19-9 **2510** U/mL
  - HBsAg (-), anti-HCV (-)

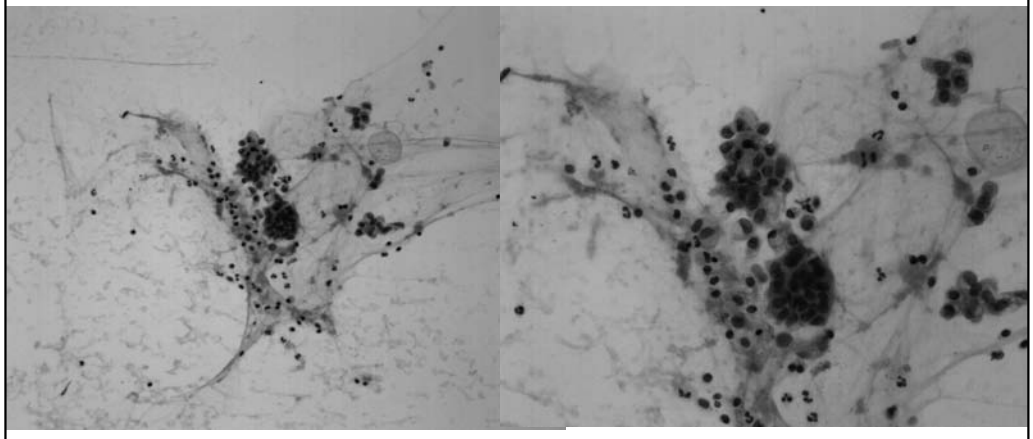
Outside Abd CT - initial



EUS



Aspiration Cytology



Assessment and Plan

- Assessment
  - Pancreatic cancer borderline resectable
- Plan
  - Neoadjuvant chemotherapy

Treatment

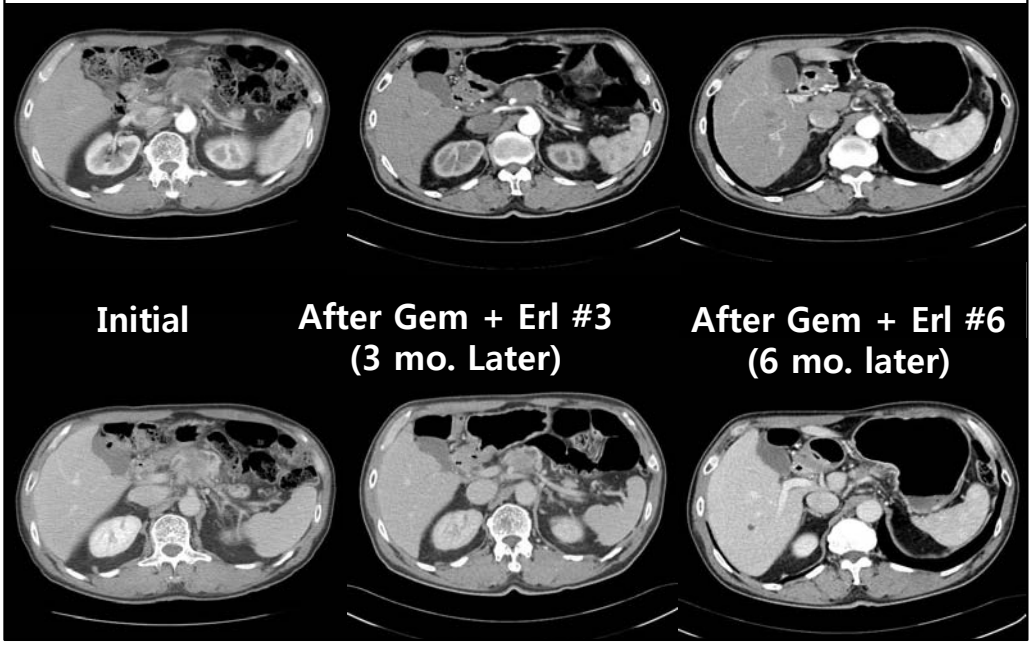
- **Neoadjuvant chemotherapy**
  - Gemcitabine + Erlotinib
    - Gemcitabine 1,800 mg miv on day 1, 8, 15 q28d (1,000 mg/m^2)
    - Erlotinib 100 mg per day (oral)

Hospital Course

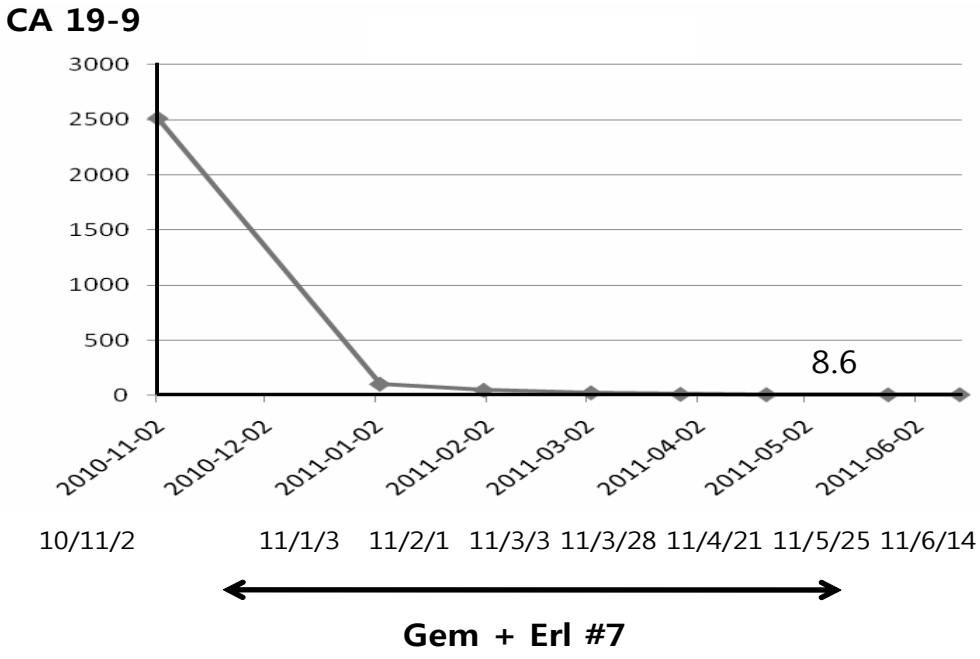
- 2010. 10 R/O pancreatic body cancer
- 2010. 11. 8 Cytology (+) for malignant cells

  Borderline resectable pancreatic cancer
- 2010. 11. 12 Gemcitabine + Erlotinib #1 start
- 2011. 2. 1 Gemcitabine + Erlotinib #3; partial response
- 2011. 4. 21 Gemcitabine + Erlotinib #6; partial response

Abd CT – follow up



Tumor Markers



Hospital Course

- 2010. 10 R/O pancreatic body cancer
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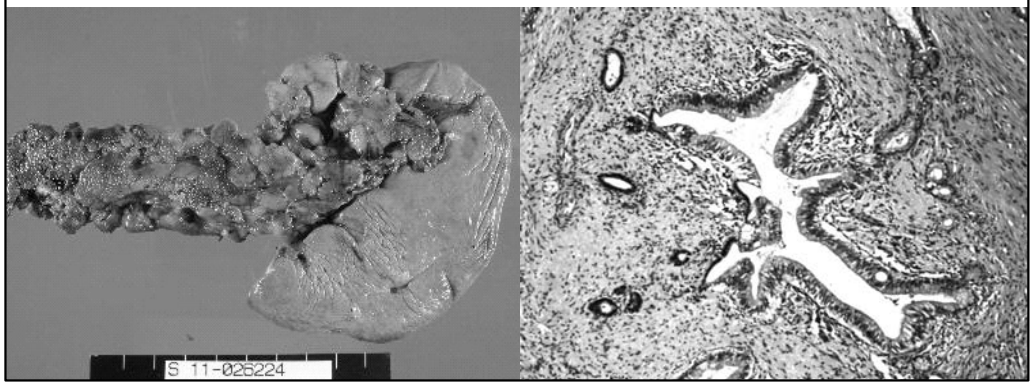
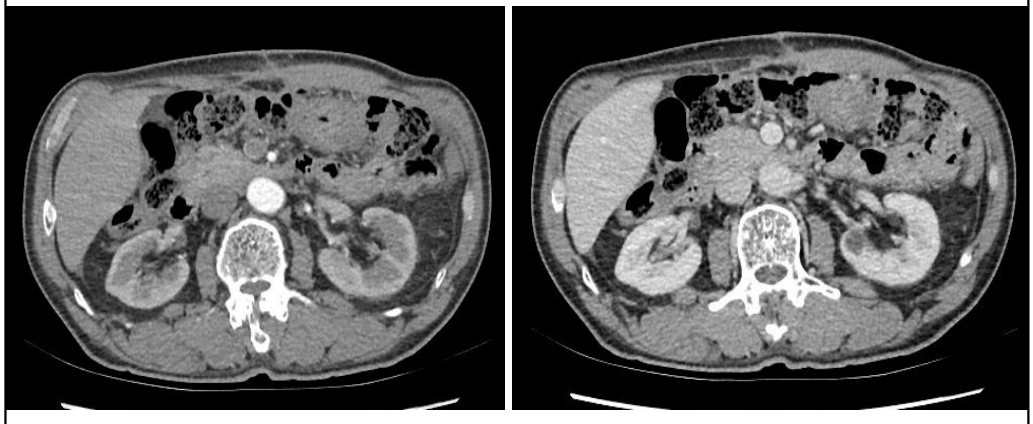
  Borderline resectable pancreatic cancer
- 2010. 11. 12 Gemcitabine + Erlotinib #1 start
- 2011. 2. 1 Gemcitabine + Erlotinib #3; partial response
- 2011. 4. 28 Gemcitabine + Erlotinib #6; partial response
  GS consultation for OP,
  But the patient reluctant to OP
  Gemcitabine + Erlotinib #7
- 2011. 6. 7 Subtotal Pancreatectomy
- 2011. 6. 16 Discharge

Pathologic Report

- DUCTAL ADENOCARCINOMA, well differentiated
- Size of tumor: 1.4 x 1.0 x 1.0 cm
- Depth of invasion: Tumor limited to the pancreas (pT1)
- Surgical margins: Free
- Lymph node: No metastasis in 11 lymph nodes (pN0)
- Angiolymphatic, Venous & neural invasion: not identified



Abd CT – post op 3mo. follow up



Borderline Resectable Pancreatic Cancer (Neoadjuvant Therapy)

- Preoperative irradiation in carcinoma of the pancreas.
  - Cancer 1980;46:1945–1949.
- Multimodality therapy of localized unresectable pancreatic adenocarcinoma.
  - Cancer 1984;54:1991–1998.
- Preoperative gemcitabine-based chemoradiation for patients with resectable adenocarcinoma of the pancreatic head.
  - J Clin Oncol. 2008;26:3496-3502.
- Preoperative gemcitabine and cisplatin followed by gemcitabine-based chemoradiation for resectable adenocarcinoma of the pancreatic head.
  - J Clin Oncol. 2008;26:3487-3495.

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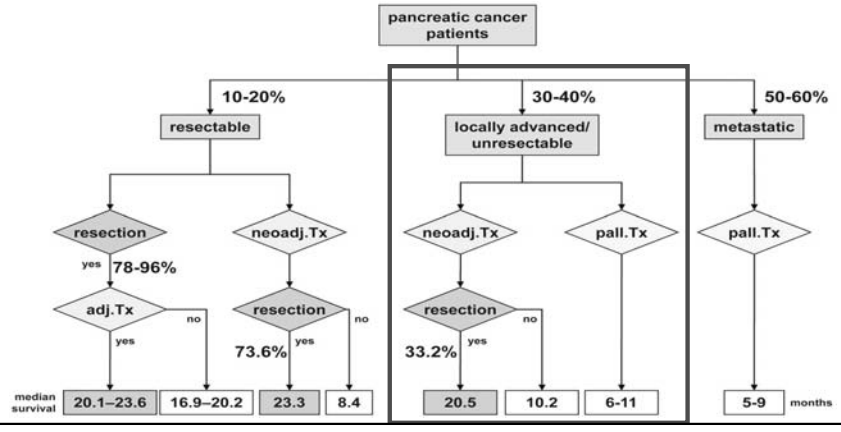
- Preoperative/Neoadjuvant Therapy in Pancreatic Cancer: A Systematic Review and Meta-analysis of Response and Resection Percentages
  - PLos Med. 2010 Apr 20;7(4)
  - In patients with initially resectable tumors, resection frequencies and survival after neoadjuvant therapy are similar to those of patients with primarily resected tumors and adjuvant therapy.
  - Approximately one-third of initially staged non-resectable tumor patients would be expected to have resectable tumors following neoadjuvant therapy.