Clinical cases in pancreatic cancer: Adherence to the ESMO Clinical Practice Guidelines

Dr Stefan Boeck
Medical Oncology, University of Munich, Germany
1st CLINICAL CASE
57-year-old man, ECOG-PS = 1
- Upper abdominal and back pain as well as weight loss of 6 kg during the last 8 weeks
- First diagnosis of diabetes type II 6 months ago
History

- External evaluation by primary care physician:
  elevated liver values for cholestasis (ALP, γ-GT), no bilirubin elevation

- **Ultrasound:**
  Non-homogeneous mass in the head of the pancreas, no evidence for liver metastasis, no ascites

Image courtesy of Dr. J. Guntau, from Sonographiebilder.de / Albertinen-KH Hamburg
QUESTION 1:

Which diagnostic tools would you use next?

1. Whole body PET/CT scan
2. Spiral-CT scan of the abdomen
3. Laparoscopy
4. Endosonography - guided needle biopsy of the pancreatic mass for histological confirmation of malignancy
5. Abdominal MRI scan
QUESTION 1:

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5. Abdominal MRI scan
Work-up results

- CT scan showed a tumor - suspicious mass in the head of the pancreas, no vascular infiltration or encasement > 180°
- No evidence for liver metastasis, no (indirect) signs of peritoneal carcinomatosis
- Serum CA 19-9 measurement was 819 U/ml (reference range: < 37 U/ml)
- Clinical stage: II A
Spiral-CT Scan (Multi-detector scan)

Images courtesy of Dr. C. J. Zech,
Institute of Clinical Radiology, University of Munich Hospitals
Question 2:

Which treatment would you recommend now?

1. Neoadjuvant gemcitabine / cisplatin - based chemoradiotherapy
2. Neoadjuvant 5-FU-based chemoradiotherapy
3. Laparotomy with radical surgical tumor resection in curative intent
4. Systemic chemotherapy with single-agent gemcitabine
Question 2:

Which treatment would you recommend now?

1. Neoadjuvant gemcitabine / cisplatin - based chemoradiotherapy
2. Neoadjuvant 5-FU-based chemoradiotherapy
3. Laparotomy with radical surgical tumor resection in curative intent
4. Systemic chemotherapy with single-agent gemcitabine
Surgical results

- Intra-operatively no signs of liver metastasis or peritoneal masses were obvious.

- Tumor resection was performed by pylorus-preserving pancreato-duodenectomy (PPPD).

- Pathological staging (TNM) and grading:
  - Stage II A; R1 resection
  - Adenocarcinoma G2
  - pT3 pN0 (0/14) cM0, L0, V0, Pn0

L: lymphatic vessel invasion; V: vascular invasion; Pn: perineural invasion
Question 3:

Which treatment would you recommend now?

1. Follow-up based on clinical symptoms
2. Adjuvant chemotherapy with gemcitabine
3. Adjuvant chemotherapy with 5-FU/FA
4. Adjuvant gemcitabine-based chemoradiotherapy
5. Intensive follow-up with CT scan and CA 19-9 every 3 months
Question 3:

Which treatment would you recommend now?

1. Follow-up based on clinical symptoms
2. Adjuvant chemotherapy with gemcitabine
3. Adjuvant chemotherapy with 5-FU/FA
4. Adjuvant gemcitabine-based chemoradiotherapy
5. Intensive follow-up with CT scan and CA 19-9 every 3 months
Evolution

- Adjuvant chemotherapy with gemcitabine (1000 mg/m2 d1,8,15 q4w) for 6 months was recommended to the patient.
- However, a CT scan before initiation of adjuvant chemotherapy (performed 6 weeks after surgical tumor resection) showed 2 new liver masses, highly suspicious for metastases.
- CA 19-9 level 6 weeks post-op was 1213 U/ml.
2nd CLINICAL CASE
History

- 67-year-old female, ECOG-PS = 0
- Painless icterus since 2 weeks
- Weight loss of 4 kg during one month
- No significant co-morbidities
- Serum bilirubin on admission 14.2 mg/dl
History

- MRCP & CT: extrahepatic cholestasis caused by a mass in the head of the pancreas, Superior Mesenteric Artery (SMA) tumor infiltration

Images courtesy of Dr. C. J. Zech, Institute of Clinical Radiology, University of Munich Hospitals
Work-up results

- ERCP: stenosis of the common bile duct
- Placement of a plastic biliary stent was performed

Image courtesy of Dr. C. Rust,
Dept. of Internal Medicine II (gastroenterology),
University of Munich Hospitals
Question 1: How would you establish the diagnosis of PC?

1. By combining MRI with spiral CT scan
2. Whole body PET/CT scan
3. One imaging method plus significant CA 19-9 elevation (e.g. > 1000 U/ml)
4. Endosonography- or CT-guided needle biopsy of the pancreatic mass for histological confirmation of malignancy
Question 1:

- How would you establish the diagnosis of PC?

1. By combining MRI with spiral CT scan
2. Whole body PET/CT scan
3. One imaging method plus a significant CA 19-9 elevation (e.g. > 1000 U/ml)
4. Endosonography- or CT-guided needle biopsy of the pancreatic mass for histological confirmation of malignancy
CT-guided biopsy of the pancreatic mass confirmed the diagnosis of a poorly differentiated pancreatic adenocarcinoma (G3)

CT scan chest/abdomen (with arterial angiography): tumor infiltration of the Superior Mesenteric Artery (SMA), no evidence for distant metastasis

Clinical diagnosis (GI tumor board):
Locally advanced pancreatic cancer
Question 2:

Which treatment would you recommend now?

1. 5-FU-based chemoradiotherapy
2. Gemcitabine-based chemoradiotherapy
3. Chemotherapy with single-agent gemcitabine
4. Chemotherapy with gemcitabine / oxaliplatin
5. Chemotherapy with gemcitabine in combination with erlotinib (anti-EGFR TKI)
Question 2:

Which treatment would you recommend now?

1. 5-FU-based chemoradiotherapy
2. Gemcitabine-based chemoradiotherapy
3. Chemotherapy with single-agent gemcitabine
4. Chemotherapy with gemcitabine / oxaliplatin
5. Chemotherapy with gemcitabine in combination with erlotinib (anti-EGFR TKI)
Patient received 3 cycles (12 weeks) single-agent gemcitabine (1000 mg/m² d1,8,15 q4w), treatment was tolerated well

Response by CT imaging criteria (RECIST): stable disease

Biochemical treatment response: CA 19-9 decrease from 2214 to 842 U/ml
Question 3:

- Which treatment would you recommend now?

1. 5-FU-based chemoradiotherapy
2. Gemcitabine / cisplatin-based chemoradiotherapy
3. Continue single-agent gemcitabine
4. Add cisplatin to gemcitabine
5. Add erlotinib to gemcitabine
Question 3:

Which treatment would you recommend now?

1. 5-FU-based chemoradiotherapy
2. Gemcitabine / cisplatin-based chemoradiotherapy
3. Continue single-agent gemcitabine
4. Add cisplatin to gemcitabine
5. Add erlotinib to gemcitabine
Evolution

- 5-FU-based chemoradiotherapy was offered to the patient
- Radiotherapy (50 Gy) in combination with infusional 5-FU (350 mg/m²/d) was initiated
- CT scan 5 weeks after completion of chemoradiotherapy: stable disease
- CA 19-9 decrease to 419 U/ml
- After a “treatment holiday” of 3 months, a disease progression (new lung metastases) was detected by imaging
Evolution

- During treatment with gemcitabine plus erlotinib the patient developed a skin rash grade 3.

- Best response was partial remission on CT scan (after 2 months of treatment) and a normalization of CA 19-9 (32 U/ml).

- After 8 months on gemcitabine plus erlotinib, disease progression by CT was detected.

- The patient died 19 months after the initial diagnosis of pancreatic adenocarcinoma.
Thank you!

For further reading please refer to: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow up of pancreatic cancer.

www.esmo.org/education/esmo-clinical-practice-guidelines.html
http://annonc.oxfordjournals.org/content/21/suppl_5/v55.full