SURGICAL PERSPECTIVE IN THE MANAGEMENT OF PANCREATIC CANCER

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WHAT'S NEW?

• What are the controversies?
• Anything changed?
• Neoadjuvant chemotherapy or chemoradiation?
• Pancreatic anastomosis Technique
PANCREAS CANCER 2018

- In 2017, 53,670 cases will be diagnosed
- 43,090 patients will die
- 4th most common cause of cancer-related death in men
- From 1999 to 2008, incidence rose steadily
- Mortality rates remain unchanged
SURVIVAL

- Resected cancers
- Stage 1A 40% 5-year survival
- Stage 3 <10%
WHO IS ELIGIBLE FOR RESECTION?

• **Localized disease (e.g. no metastasis)**

• **No involvement of superior mesenteric artery (SMA) or major celiac vessels**

• **Patient superior mesenteric vein-portal vein confluence**

• **Unfortunately 40% of patients are not referred for resection**
RESECTABLE TUMOR?

- SMALLER CANCER IN PANCREATIC HEAD
- SMV & SMA FREE FROM TUMOR
UNRESECTABLE?

- A: Minimal contact
- B: 50% SMV
- C: 75% SMV
- D: Celiac Encased
UNRESECTABLE

- Visceral metastases
- Distant metastases
NEOADJUVANT CHEMOTHERAPY?

- Evidence?
- Retrospective review 15, 237 patients
  - Propensity Score matching
  - NAC better OS (26 v 21 months, p<0.01)
- Review from MDACC pre-op chemother,
  - 25% of patients progressed on therapy
  - Median Survival 21 months

ADVANTAGES OF PRE-OP TREATMENT

- Patients at high-risk for positive margin are not good candidates for upfront resection
- Sterilization of surgical field
- Increased RO resection
- Decreased complications?
- Prevention of treatment delay for adjuvant chemotherapy
NEOADJUVANT TREATMENT

• **Phase III RCT PRODIGE trial compared FOLFIRINOX to Gemcitabine in stage 4**
  • Improvement in Overall Survival (11 v. 7 months, P<0.01)

• **Observational study 101 patients with locally advanced disease**
  • 29% reduction in tumor size (> 30%)
  • 15 patients converted to resectable status

• **Neoadjuvant therapy**

Conroy T. NEJM. 2011; 364:1817-25
Sadot E. Ann Surg Oncol. 2015; (22):3512-21
RANDOMIZED TRIALS

• **Phase II compared surgery to Neoadj-chemoRT**
  - 66 patients
  - No difference in R0 (52% v 48%)
  - No statistical survival advantage (25 v. 19 months)

• **Phase III trial accruing**
  - NeoCRT -> Surgery -> Adjuvant Chemo
  - Surgery -> Adjuvant Chemo

• **NCCN current recommendation is upfront surgery for**
  - Clearly resectable w/o high-risk features
RESECTABLE?

- Maybe
CURRENT PRACTICE

• Evaluation by multidisciplinary team
• Pre-operative CA19-9
• High-quality imaging

• Upfront resection
  • Tumor < 3 cm
  • CA19-9 < 500
  • No SMA involvement and patent SMV
TREATMENT OF CARCINOMA OF THE AMPULLA OF VATER

Allen O. Whipple, M.D., William Barclay Parsons, M.D.,
and Clinton R. Mullins, M.D.

New York, N.Y.

From the Department of Surgery, Columbia University

- Born in Persia
- Spoke 6 languages
- Chair of Surgery at Columbia
- Distinguished Service Award
  - American College of Surgeons
  - American Medical Association

- 1881-1963
STANDARD WHIPPLE

Whipple Procedure
before procedure

after procedure
PANCREATIC ANASTOMOSIS

• Leak rate remains serious post-op morbidity (20-35%)

• International Study Group Pancreatic Fistula (ISGPF) grading system
  • A -> Biochemical Leak (BL)
  • B -> Drain > 3 weeks
    • Percutaneous drain
    • Angiography bleeding
    • Infection w/o organ failure
  • C -> Reoperation, organ failure or death
NEW ANASTOMOTIC TECHNIQUE

• New (old) anastomotic technique
• In the late 1890s and early 1900s surgeons began to perform initial pancreatic operations
• Struggled with pancreatic anastomosis
• Initial report by American Surgeon Dr. Robert C. Coffey

Coffey RC. Ann Surg. 1909 Dec; 50(6):1238-64
PANCREATIC ENTEROSTOMY

Coffey RC. Ann Surg. 1909 Dec; 50(6):1238-64
NOVEL SUTURE MATERIAL

- Whipple argued for silk
FUTURE DIRECTIONS

• **Trial involving barbed suture material**

• **Standardization of surgery or neoadjuvant therapy**

• **Additional treatments for unresectable pancreas cancer:**
  • *Endoscopic ablation*
  • *Irreversible electroporation*
THANK YOU

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