Advances in Pancreas Surgery

Ronald Wolf MD
Professor, Department of Surgery

UCI
What advances are there?

- Improved evaluation, classification of pts, planning of procedures, image review
- Improved survival of resected pts
  - Crazy good recent results
- Avoided injury
- Lessened impact of surgery on pts
Evaluation of Pancreas Tumors

• Multidisciplinary tumor board at high volume hospital
• High quality pancreas protocol CT (thinnest possible < 3mm, prefer 1mm)
  • Within 4-6 weeks of surgery, prior to stenting
• CT chest with contrast
• EUS-FNA preferred diagnostic tool
  • 1999 EUS useful, 2018 mandatory*
• CA 19-9 important (repeat after resolution of biliary obstruction)
• MRI and PET only as problem solving tools (indeterminate liver lesions, non regional adenopathy)
• +/- diagnostic laparoscopy

NCCN Guidelines Version 3.2017 Pancreatic Adenocarcinoma
Pancreas Resectability

Resectable

-no contact mesenteric vessels.
Pancreas Resectability

Resectable
-no contact mesenteric vessels.
Resectability

Borderline

- contact mesenteric vessels, < 180 deg
- artery
- distortion, clot OK
- reconstructable
Arterial Anatomy - Borderline Criteria

- Contact with CHA, no extension to celiac axis or hepatic artery bifurcation
- Solid tumor contact with SMA < 180
- Contact with variant arterial anatomy (replaced right HA)

Arterial Anatomy - Borderline Criteria

- Contact with CHA, no extension to celiac axis or hepatic artery bifurcation
- Solid tumor contact with SMA < 180
- Contact with variant arterial anatomy (replaced right HA)
Venous Anatomy - Borderline Criteria

- Contact with SMV or PV > 180
- Contact of < 180 with contour irregularity of vein or thrombosis
- Suitable vessel for resection and reconstruction

Doug Evans MDACC
Resectability

Local advanced/
Unresectable
- arterial mesenteric encasement.
- nonreconstructable
Borderline vs local adv
Borderline vs local adv
Borderline vs local adv

Locally Advanced
RTOG 9704

• First American phase III trial since GITSG in 1970’s
• Still utilized radiation, whereas Europe has dropped EBRT from pancreas trials
• Completed 2002, 538 pts

Regine, W. JAMA 2008;299:1019
RTOG 9704

Regine, W. JAMA 2008;299:1019
A Randomized Phase II Study of Perioperative mFOLFIRINOX versus Gemcitabine/nab-Paclitaxel as Therapy for Resectable Pancreatic Adenocarcinoma

Abbreviated Title: Perioperative FOLFIRINOX vs Gem/nab-Pac for Resectable Panc Adeno

Status Notes: S1505 is now re-activated as of 06/16/2017 at 01:00 pm ET.

Activated: 10/12/2015

Participants: ALL NATIONAL CLINICAL TRIALS NETWORK MEMBERS
SWOG 1505

- Resectable pancreatic adenocarcinoma pts
- Measurable disease, left or right sided
- Randomized to
  - mFOLFIRINOX every 28 days, 3 courses pre op and post op
  - Gem Abraxane similar split course
  - Pts with progressive disease avoid surgery
Gemcitabine and Taxane Adjuvant Therapy with Chemoradiation in Resected Pancreatic Cancer: A Novel Strategy for Improved Survival?

- Retrospective database report
- 102 pts down to 58 pts
  - No adjuvant tx
  - Medically unfit
  - Surgical complications
  - Different chemo or RT
- Chemo RT
  - 5040 cGy
  - 5-FU/Cis/\(\alpha\) interferon

MDACC neoadjuvant borderline trials 1988-2006

Alliance A021501

- Preoperative chemotherapy vs. chemotherapy and short-course radiation for borderline resectable adenocarcinoma of the head of the pancreas

- Randomization of 8 preop cycles FFX vs. 6 cycles FFX + hypofractionated XRT (5 days, SBRT or other)

- Approved by NCI GISC, waiting.

Matt Katz MD  PI
Treatment Borderline Resectable

- Crazy good result #2
- Ferrone, Fernandez-del Castillo et al
- 188 Borderline/LA pts resected
  - 40 neoadj FOLFIRINOX
  - 87 no neoadj treatment

Hospital Volume in Pancreas Surgery

More than operation
Patient rescue
Multidisciplinary care
Oncologic outcomes

Number of lives saved for every 100 procedures regionalized

Hollenbeck et al. J Clin Oncol 2007
Methods

National Cancer Database, 1998-2012
Open Pancreaticoduodenectomy
Leapfrog Criteria for Volume
  Low-volume: < 11 PD per year
  High-volume: ≥ 11 PD per year
Sub-analysis for very low-volume (< 5 PD per year) and very-high volume (> 20 PD per year)
Assessment of hospital volume by region of the United States
Number of Hospitals
Number of Cases
90-day Mortality Trend by Hospital Volume

- Very Low volume: <5
- Low Volume: 5-10
- High Volume: 11-19
- Very high volume: >=20

p < 0.0001
Our Team