STEM-S

Last Minute Revision

LMR NOTES

INI-SS SURGICAL GASTROENTEROLOGY

PRESENTED BY
Stem-S

- **PANCREATIC PROTOCOL CT**
  - Defines:
    - Arteriovenous relation to the tumor
    - Establish SMV/PV reconstructability
  - PDAC appears hypodense to the rest of pancreas in both phases
- Protocol details

CA 19-9 — FULL EXAM CONCEPT

Property	Insight
Not for screening	Low PPV
False Positive	Obstruction/cholangitis
False Negative	Lewis negative (5–10%)
Prognostic	↑ = poor survival

High CA19-9 (>500–1000) = "biological unresectable"

- **BIOPSY — FINAL LOGIC**

Scenario	Rule
Resectable	NO biopsy
Borderline	YES
Metastatic	YES

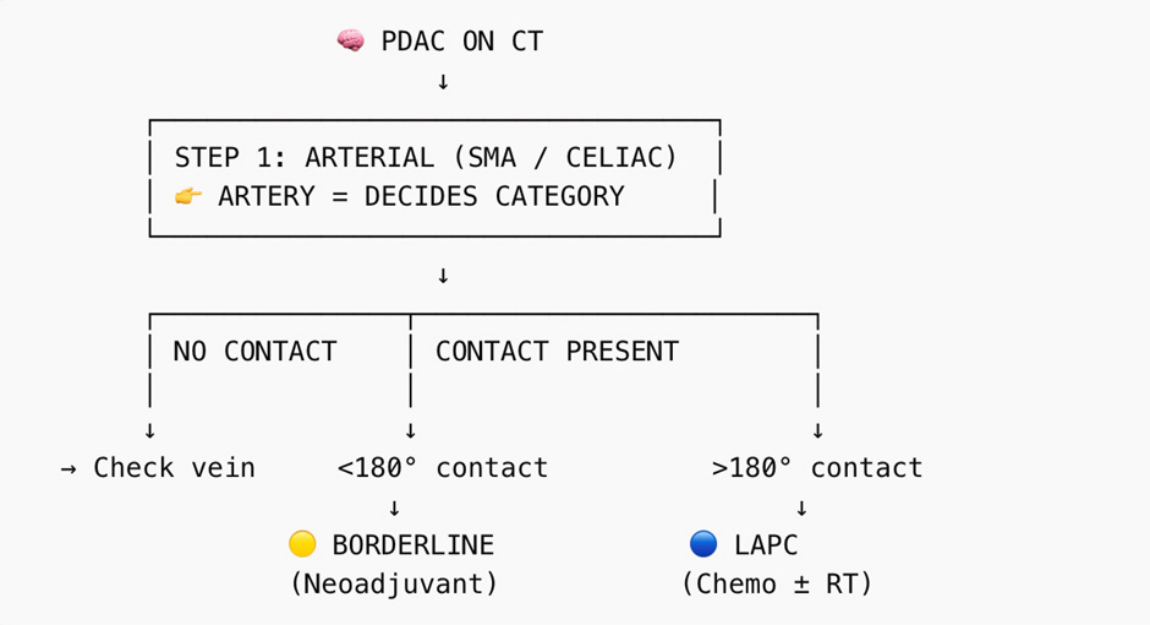
STAGING LAP
NOT routine (IMPORTANT)

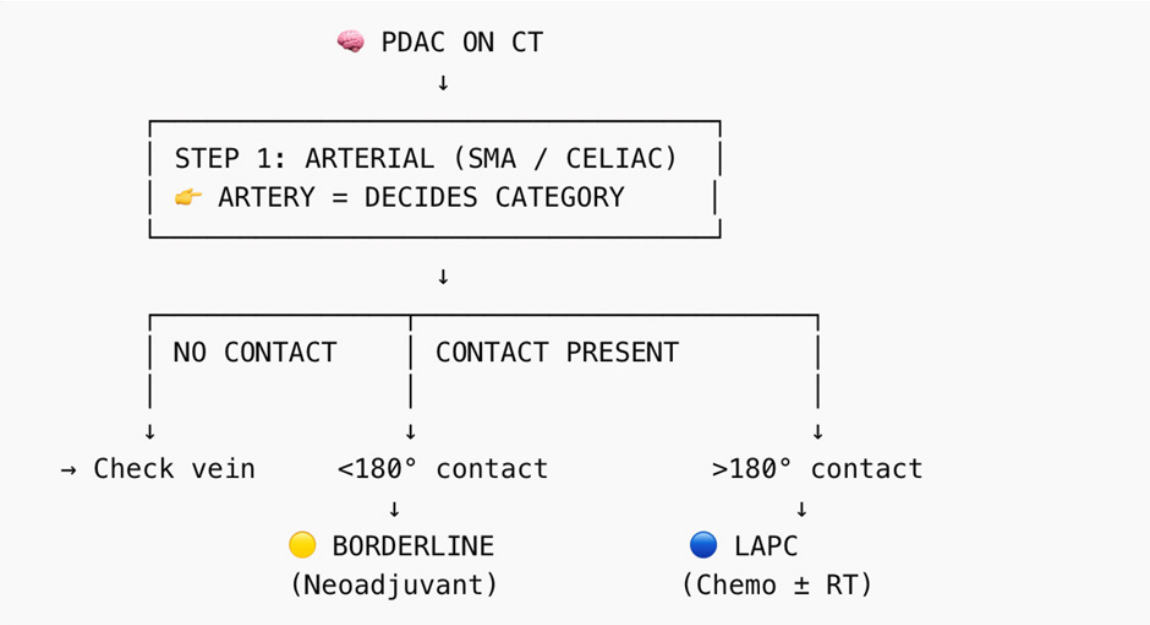
- Yield ~10% now

INDICATIONS:

- Body/tail tumors
- High CA19-9
- Large tumors

- Positive cytology considered **M1 disease**





🧠 FINAL NCCN CLASSIFICATION

🟢 RESECTABLE	No arterial contact OR CHA minimal (no CA involvement) SMV/PV ≤180° smooth	Surgery → Adj
🟡 BORDERLINE	SMA <180° CA <180° (body/tail tumors) CHA short segment (reconstructable) SMV/PV >180° or irregular (reconstructable)	⭐ NEOADJUVANT → Surgery
🔵 LAPC	SMA >180° CA >180° CHA extensive / to CA / bifurcation Unreconstructable SMV/PV	Chemo ± RT (Rare surgery)

B. PPH — FULL CLASSIFICATION
3 AXES (VERY IMPORTANT):

1 Timing:
- Early (<24h)
- Late (>24h)

2 Location:
- Intraluminal
- Extraluminal

3 Severity:
- Mild
- Severe

CLASSIC EXAM CASE:
- POD >5
- Drain bleeding
- Hb drop >3 g/dL
- **Late severe extraluminal PPH**
- Managed with **Angioembolization as a FIRST LINE**

- **C. PPAP (NEW ENTITY)**
  - Post-op pancreatitis
  - Diagnosed by enzyme + imaging

11. ADJUVANT THERAPY — FULL TRIAL EVOLUTION

Trial	Comparison	Key Result (Exam Line)	Practice Change
ESPAC-1	Chemo (5-FU/LV) vs RT vs Observation	**Chemo improved survival; RT harmful**	Established **chemo > surgery alone**
CONKO-001	Gemcitabine vs Observation	**↑ DFS + OS with gemcitabine**	Made **Gemcitabine standard**
ESPAC-3	5-FU/LV vs Gemcitabine	**No OS difference; Gem better tolerated**	**Gem preferred (less toxicity)**
ESPAC-4	Gem vs Gem + Capecitabine	**Gem+Cap ↑ OS (28 vs 25 mo)**	Dual therapy for **non-fit patients**
ESPAC-5	Upfront surgery vs Neoadjuvant (various regimens)	**Neoadjuvant ↑ survival vs upfront surgery**	Shift toward **NAT even in borderline/resectable**
PRODIGE-24	Gem vs mFOLFIRINOX	**Massive OS benefit (54 vs 35 mo)**	**Current best adjuvant (fit patients)**

MEMORY HACK (SEQUENCE STORY)
ESPAC-1 → chemo works
CONKO → gem becomes standard
ESPAC-3 → gem safer
ESPAC-4 → add capecitabine
ESPAC-5 → neoadjuvant rising
PRODIGE → FOLFIRINOX dominates

12. LEFT-SIDED SURGERY — ADVANCED

- **RAMPS — TRUE CONCEPT**

KEY STEP :
Early pancreatic neck division + vessel control

- Proceed from medial to lateral by first dividing the pancreatic neck
- Achieve earlier control of splenic vessels
- Plane of dissections lie anterior to Gerotas with standard DP, whereas RAMPS advocates the dissection to proceed posterior to Gerotas

Type	Plane	Indication
Anterior	Anterior to adrenal	No posterior invasion
Posterior	Behind adrenal	Posterior invasion

MODIFIED APPLEBY — FULL LOGIC
INDICATION:

- Celiac axis involvement

REQUIREMENTS:

- Patent SMA
- Intact GDA
- Intact proper hepatic artery

CONTRAINDICATION:

- Hepatic artery involvement

SURGERY

- **DP-CAR** (Distal Pancreatectomy with Celiac Axis Resection)

PDAC — ALL IMPORTANT TRIALS (MASTER SHEET)

1. ADJUVANT TRIALS

Trial	Comparison	Key Result	Exam Takeaway
ESPAC-1	5-FU vs RT vs Obs	**Chemo ↑ survival, RT harmful**	No routine RT
CONKO-001	Gem vs Obs	**↑ DFS + OS**	Gem = standard
ESPAC-3	5-FU vs Gem	**Equal OS, Gem safer**	Prefer Gem
ESPAC-4	Gem vs Gem+Cap	**↑ OS (28 vs 25 mo)**	Use if not fit
PRODIGE-24	Gem vs mFOLFIRINOX	**OS 54 vs 35 mo**	**BEST regimen**

2. NEOADJUVANT TRIALS

Trial	Population	Key Result	Exam Takeaway
PREOPANC	Resectable + BRPC	**↑ R0 + ↑ OS (ITT)**	NAT beneficial
PREOPANC-2	FOLFIRINOX vs CRT	Ongoing evolution	FOLFIRINOX preferred
JSAP-05	Gem+S1 vs upfront surgery	**↑ OS with NAT**	NAT validated
ESPAC-5	BRPC	**NAT > upfront surgery**	Paradigm shift

3. METASTATIC / ADVANCED TRIALS

Trial	Comparison	Key Result	Exam Takeaway
PRODIGE-4	FOLFIRINOX vs Gem	**↑ OS (11 vs 6 mo)**	Best for fit
MPACT	Gem vs Gem+nab	**↑ OS**	Option if not fit
NAPOLI-1	5-FU vs + liposomal irinotecan	**↑ OS**	2nd line therapy

CHRONIC PANCREATITIS

INTRODUCTION

- Progressive **fibro-inflammatory destruction → irreversible**
- Leads to:
  - **Pain (neurogenic + ductal HTN)**
  - **Exocrine insufficiency → steatorrhea**
  - **Endocrine insufficiency → DM (type 3c)**
- **Alcohol + smoking = synergistic toxicity**

1. EPIDEMIOLOGY & RISK FACTORS

Factor	Key Detail	Exam Pearl
Alcohol	**≥70 g/day for >12 yrs**	Dose dependent
Smoking	**>20 pack-years**	Independent RF + progression
Combo	Alcohol + smoking	**Synergistic (VERY IMPORTANT)**

- Smoking = **disease progression + calcification driver**

2. GENETIC DISORDERS (VERY HIGH-YIELD TABLE)

Gene	Protein	Normal Role	Disease Mechanism
PRSS1	Trypsinogen	Inactive enzyme	**Gain → autoactivation → autodigestion**
SPINK1	Trypsin inhibitor	Blocks trypsin	Loss → unopposed trypsin
CFTR	Cl channel	Fluid secretion	Thick secretions → duct obstruction
CTRC	Trypsin degradation	Degrades trypsin	Loss → ↑ trypsin activity

- **Final pathway = ↑ intrapancreatic trypsin**

3. M-ANNHEIM CLASSIFICATION

- **Based on:**
  - Etiology + morphology + clinical stage

Etiology components:

- Alcohol
- Nicotine
- Nutrition
- Hereditary
- Efferent duct factors
- Immunologic
- Misc

4. TIGAR-O CLASSIFICATION

Category	Examples
Toxic-metabolic	Alcohol, smoking
Idiopathic	Early/late onset
Genetic	PRSS1, CFTR
Autoimmune	AIP
Recurrent acute	RAP
Obstructive	Tumor, stricture

Most asked classification

5. AUTOIMMUNE PANCREATITIS (AIP)

Feature	Type 1 AIP	Type 2 AIP
Synonyms	Lymphoplasmacytic sclerosing pancreatitis; AIP without GEL	Idiopathic duct-centric chronic pancreatitis; AIP with GEL
Epidemiology	Asia > USA, Europe	Europe > USA > Asia
Age at diagnosis	Older, ~7th decade	Younger, ~5th decade
Gender	Male predominance (~75%)	Equal (~50% males)
Clinical presentation	Painless obstructive jaundice	Painless obstructive jaundice; abdominal pain; acute pancreatitis
Serum IgG4 level	Often elevated (~66%)	Normal, occasionally elevated (~25%)
Extrapancreatic involvement	Proximal bile duct, salivary glands, kidney, retroperitoneum (~50%)	No
Association with IBD (UC)	Occasional	Common (~10–20%)
Response to steroids	Excellent (~100%)	Excellent (~100%)
Recurrence	High (20–60%)	Low (<10%)
IgG4-related disease	Yes	No