Peritoneal Carcinomatosis

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Vancouver Coastal Health

UBC THE UNIVERSITY OF BRITISH COLUMBIA

BC Cancer Agency
CARE + RESEARCH

Disclaimer

I have no conflicts of interest

Outline

Definitions and Background

Colorectal cancer and Appendix

Cytoreductive surgery and HIPEC

Selection and Evaluation

Approaches to clinical scenarios

Case

62 yom FIT+ and undergoes colonoscopy

Ulcerative mass in ascending colon

-> poorly differentiated adenocarcinoma

Staging CT chest/abd/pelvis

-> 4-5 mm nodules in right peri-colic gutter and omental stranding

Options?

Proceed with lap right hemi

Arrange percutaneous core biopsy

Diagnostic laparoscopy and biopsy

PET

Refer to Medical Oncology

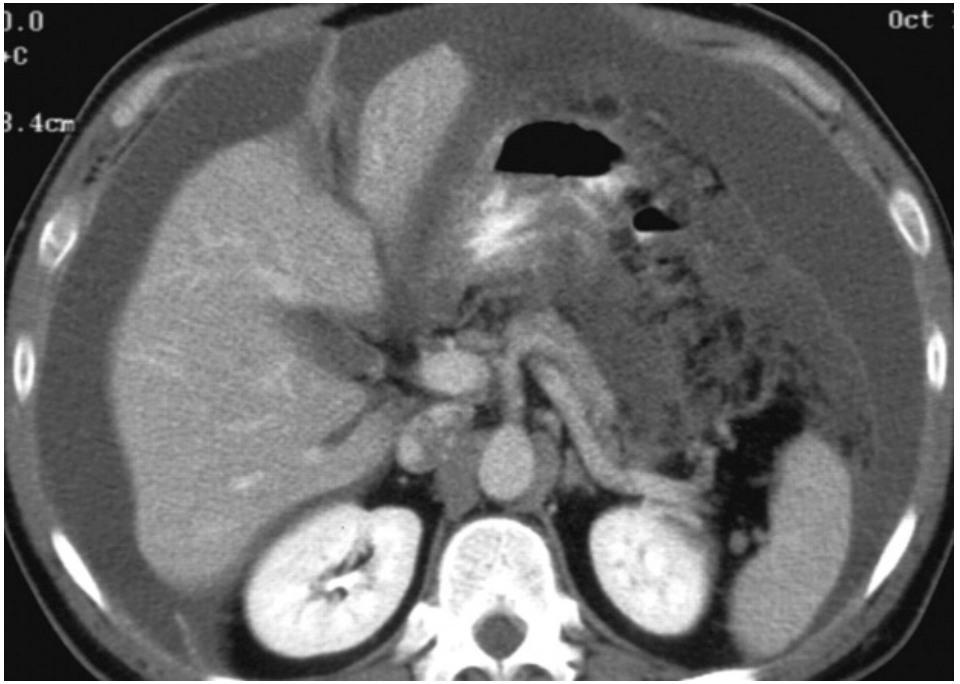
Peritoneal Carcinomatosis

Secondary

- Colorectal
- Appendix
- Ovary
- Stomach
- Pancreas, etc

Primary

- Mesothelioma



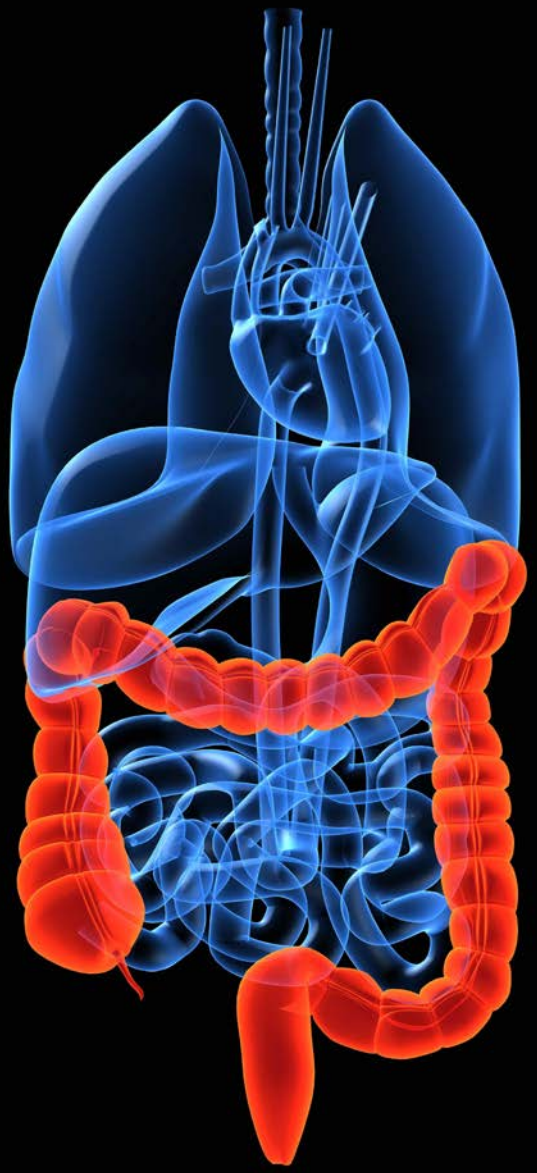
The Numbers…

	In BC
Appendix 2-3 per million per year	***10-15***
Colorectal 20-80 per million per year	***100-600***
Mesothelioma 1 per million per year	***5***
Operative 3-7 per million per year	***15-30***

Not all are created equal

CRC ≠ LAMN ≠ Meso ≠ Gastric ≠ SB

For the scope of the this talk I will focus on CRC and appendix



Colorectal Cancer

~13% of all CRC cases will develop PC

Best supportive care –> 5-7 months survival

Best systemic chemotherapy -> 13-16 months

CRS/HIPEC -> 32-61 months

Jayne et al. 2002 Br J Surg
Franko et al. 2011 J Clin Oncol
Glehen et al. 2004 J Clin Oncol
Elias et al. 2009 J Clin Oncol

What is CRS/HIPEC?

CRS

- Complete resection of all macroscopic disease with removal of involved organs (preservation if possible) and peritonectomy of involved peritoneal surfaces

HIPEC

- Hyperthermic intraperitoneal chemotherapy
- Treatment of microscopic disease
- Oxaliplatin/MMC/Cisplatin/Doxorubicin

How do we select for treatment?

Disease burden

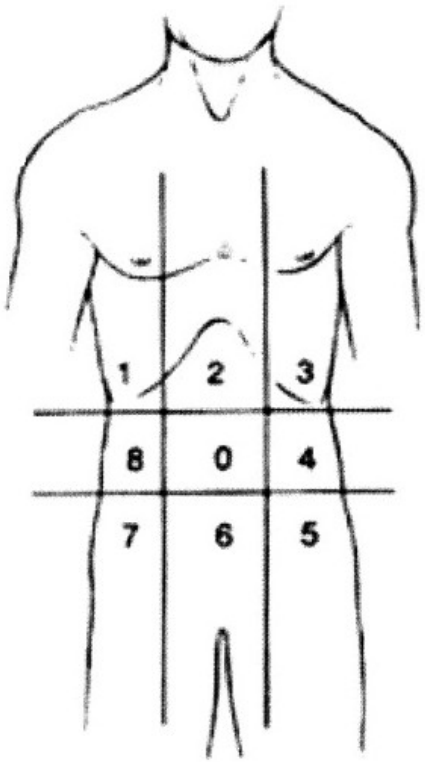
Biology

Synchronous vs. Metachronous

Chemo responsive

Disease Free Interval

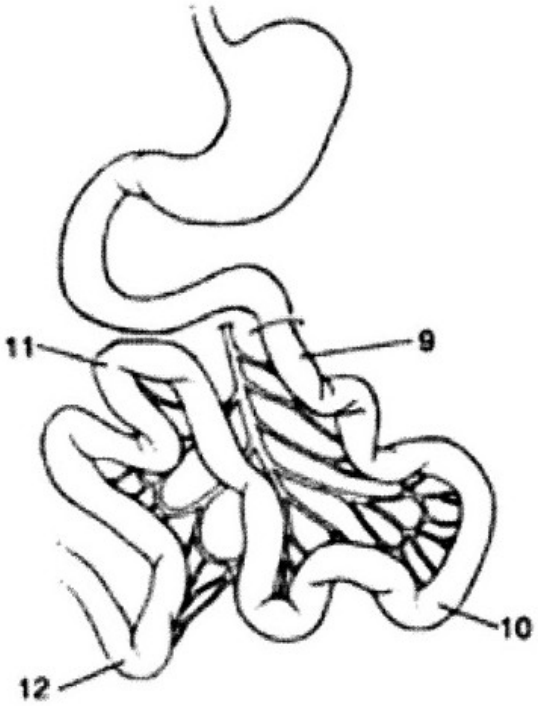
Patient factors



Regions	Lesion Size
0 Central	
1 Right Upper	
2 Epigastrium	
3 Left Upper	
4 Left Flank	
5 Left Lower	
6 Pelvis	
7 Right Lower	
8 Right Flank	
9 Upper Jejunum	
10 Lower Jejunum	
11 Upper Ileum	
12 Lower Ileum	
PCI	

Lesion Size Score

LS 0 No tumor seen
LS 1 Tumor up to 0.5 cm
LS 2 Tumor up to 5.0 cm
LS 3 Tumor > 5.0 cm or confluence



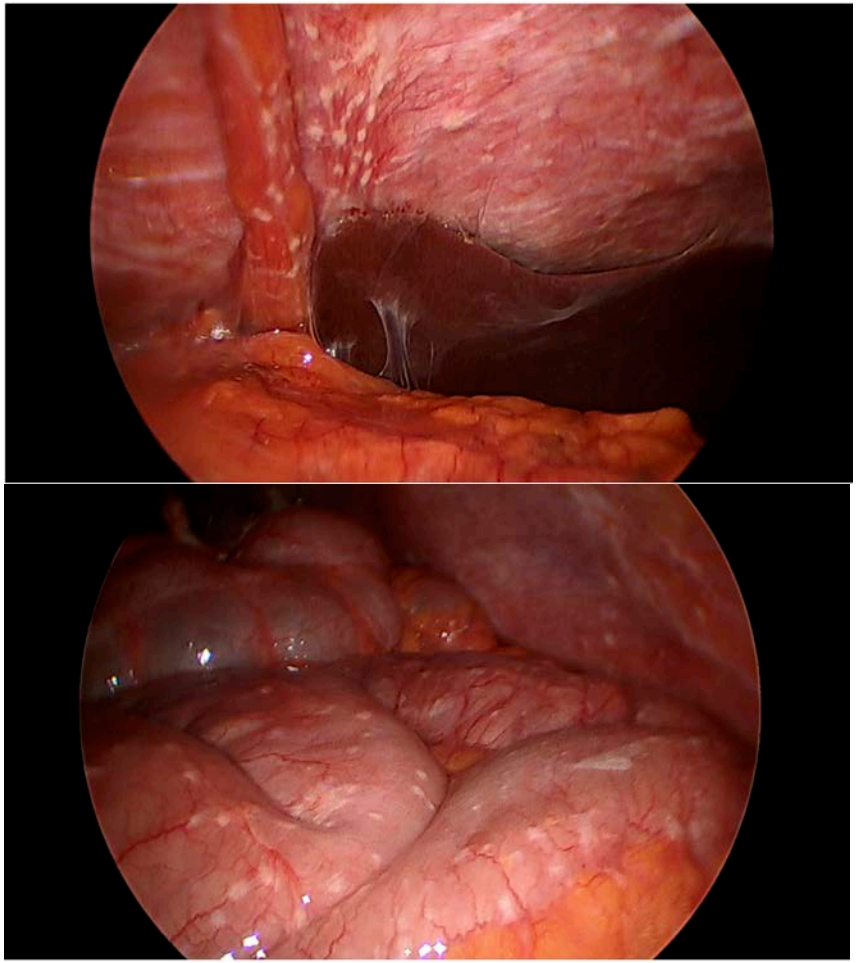
Pre-operative selection

Pathology review

CT Chest/Abdomen/Pelvis

CT PET (selective)

Diagnostic Laparoscopy



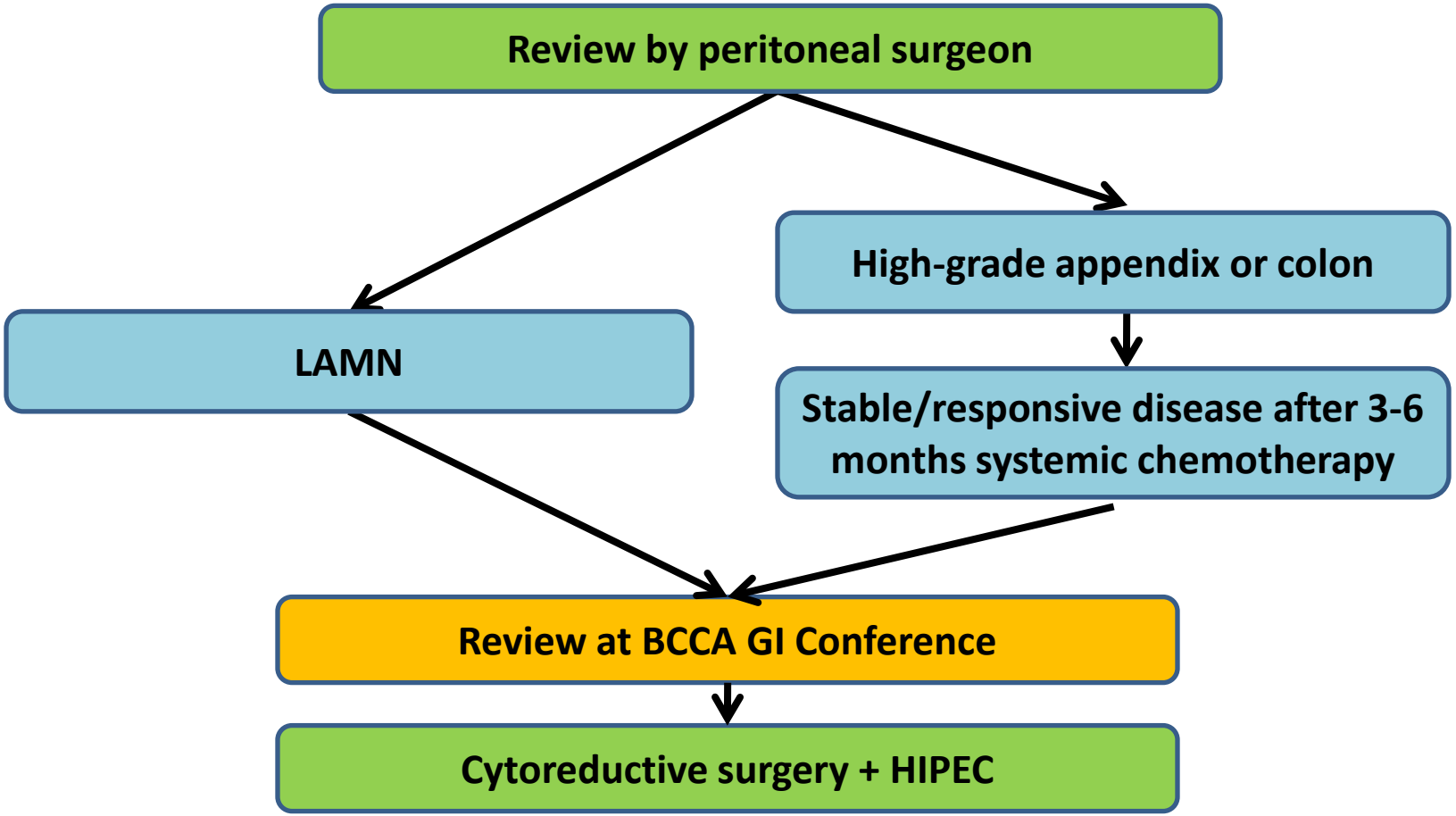
Pre-operative selection

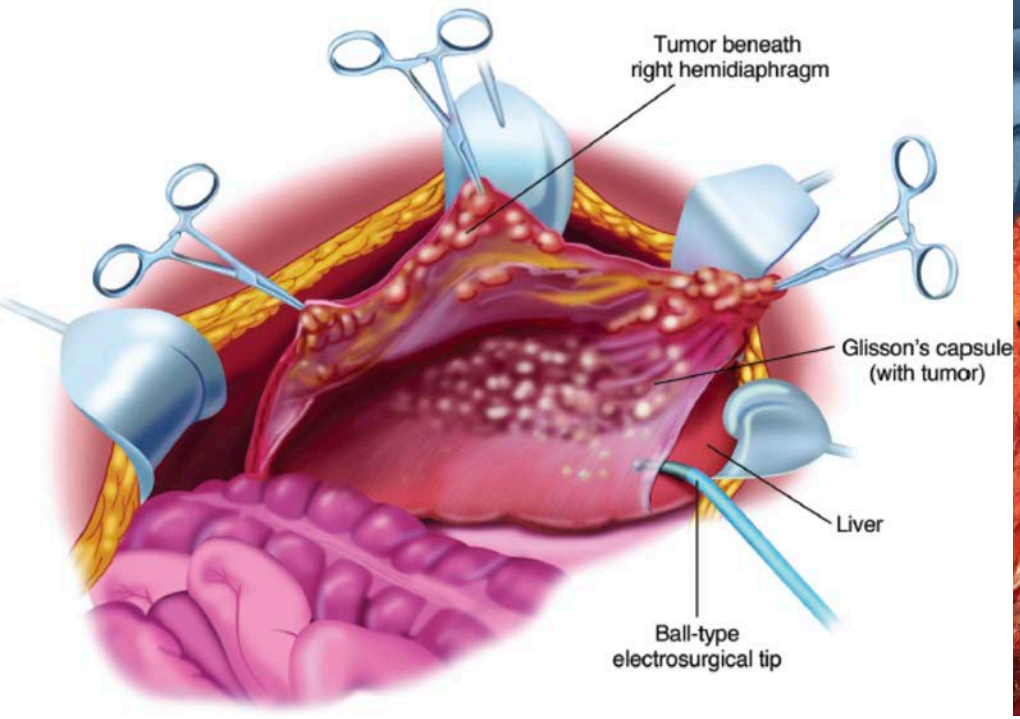
Absolute contra-indications for HIPEC

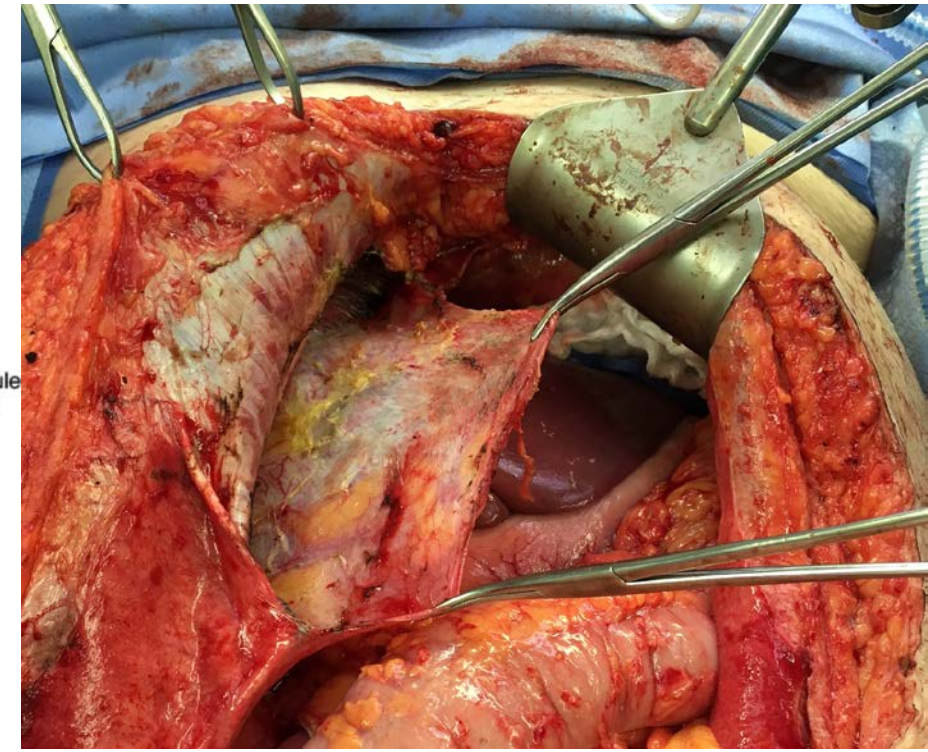
- Poor performance status
- Extensive co-morbidities
- Unresectable disease on imaging or laparoscopy
- Extra-abdominal metastases
- Malignant small bowel obstruction

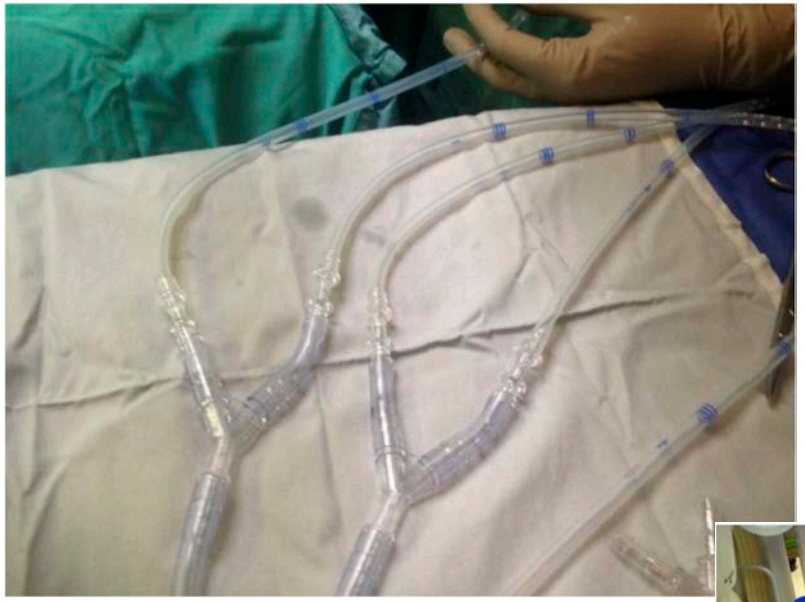
Relative contra-indications for HIPEC

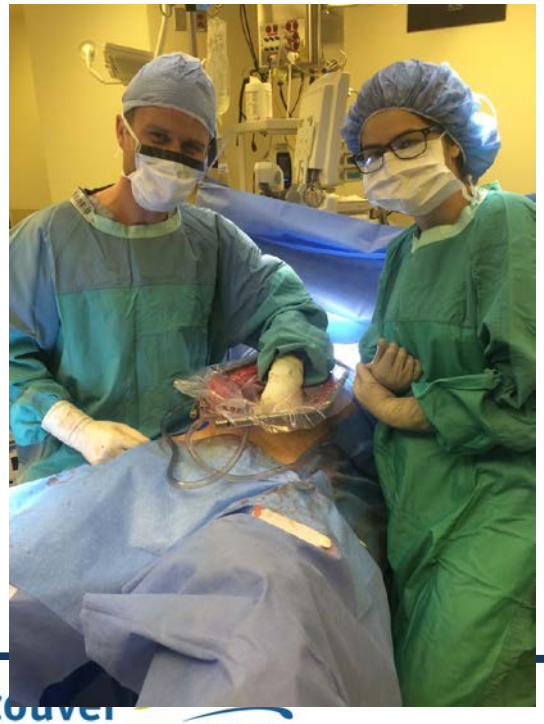
- Age >70
- Progression on systemic chemotherapy
- PCI > 20
- Bilateral hydronephrosis

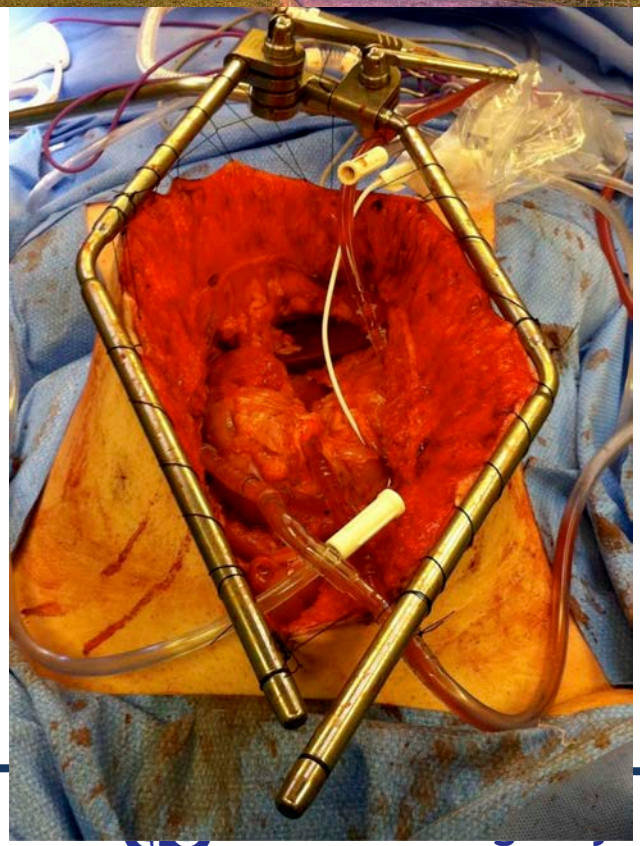

Review by peritoneal surgeon
High-grade appendix or colon
LAMN
Stable/responsive disease after 3-6 months systemic chemotherapy
Review at BCCA GI Conference
Cytoreductive surgery + HIPEC


Tumor beneath
right hemidiaphragm
Glisson's capsule
(with tumor)
Liver
Ball-type
electrosurgical tip



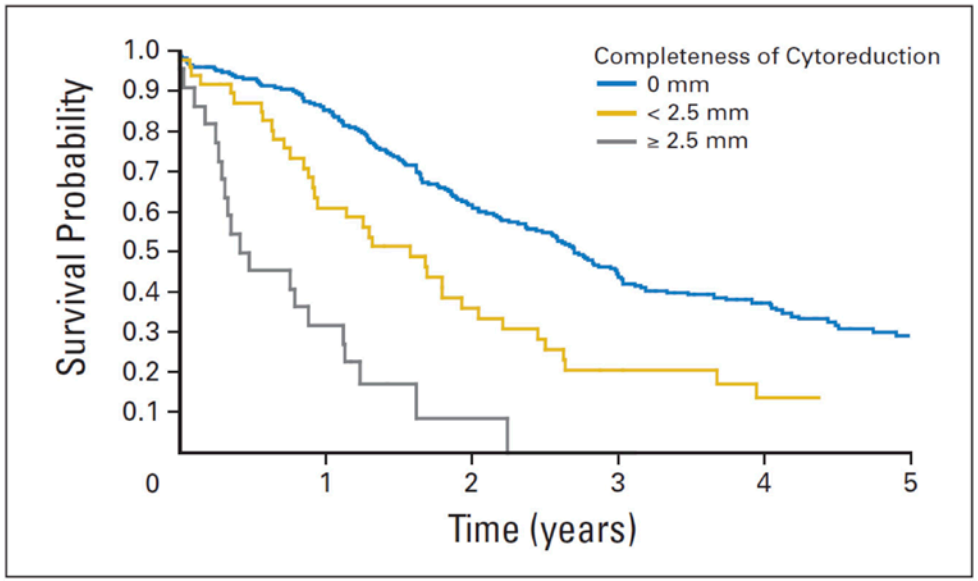






Completeness of Cytoreduction

COMPLETE cytoreduction is critical to appropriate treatment



Elias et al. *J Clin Oncol* 2010

“#$@&%*!, I think that’s peritoneal disease”

Approach to incidental PC

Optimal treatment is systemic chemotherapy

For the MAJORITY, curative intent surgery is not an option

1. Facilitate the pathologic diagnosis (perc, lap bx)
2. Delineate extent of disease (if possible)
3. Avoid delays to chemo

******Reserve resection for perforated/obstructed/refractory bleeding***

…back to case

Proceed with lap right hemi

Arrange percutaneous core biopsy

Diagnostic laparoscopy and biopsy

PET

Refer to Medical Oncology

…back to case

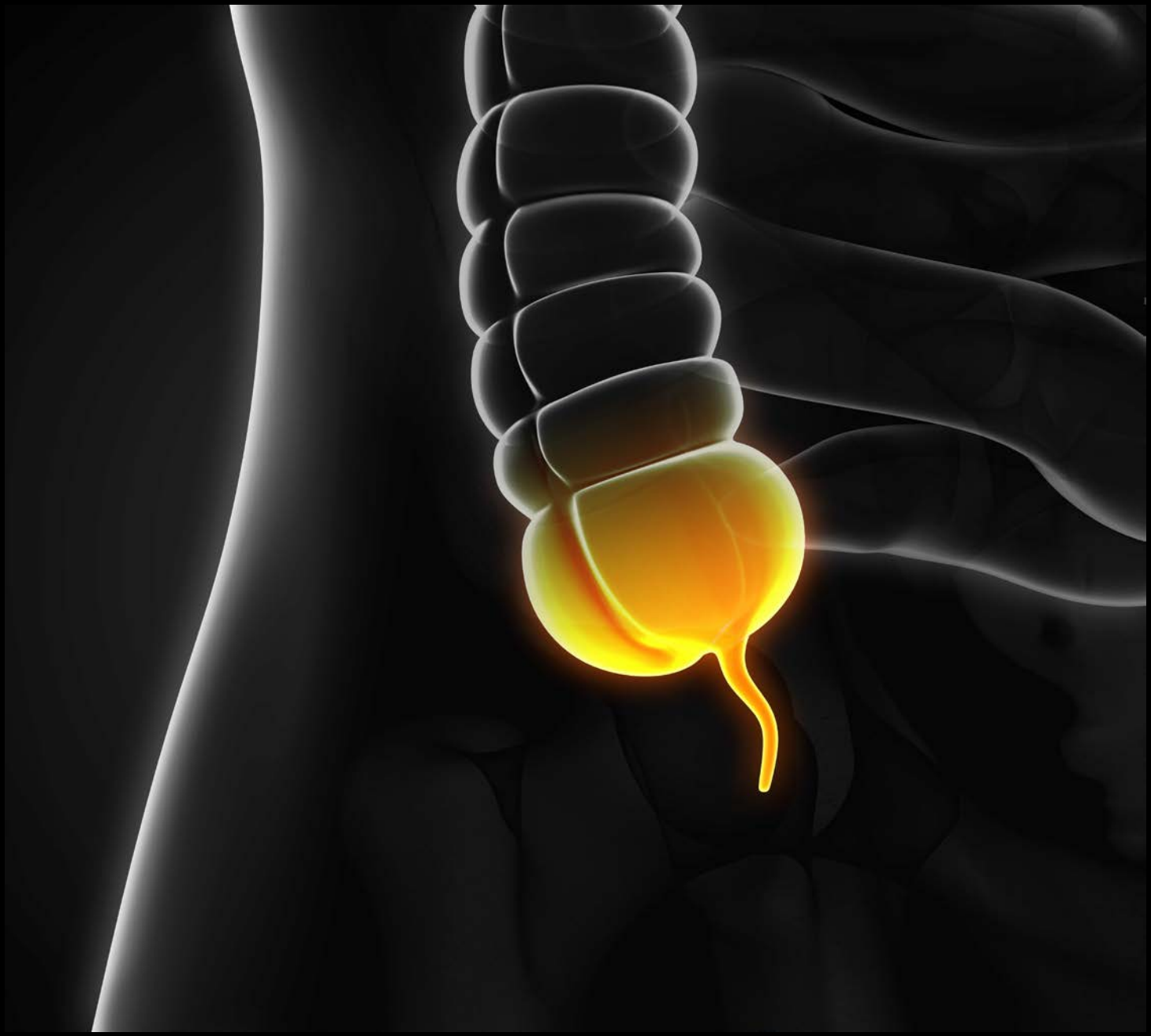
~~Proceed with lap right hemi~~

Arrange percutaneous core biopsy **?? too small**

Diagnostic laparoscopy and biopsy ✔

PET **?? sensitivity**

Refer to Medical Oncology ✔



A name by any other name…

Low Grade Mucinous Neoplasm of the Appendix

High Grade Mucinous Neoplasm of the Appendix

Appendiceal adenocarcinoma

Appendiceal mucinous adenocarcinoma

Appendiceal NET

Typical goblet cell carcinoid of the appendix

Poorly differentiated ex goblet cell carcinoid

Signet ring cell ex goblet cell carcinoid

A name by any other name…

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Terminology

Mucocele – mucus filled dilated appendix

Low-grade **A**ppendiceal **M**ucinous **N**eoplasm (**LAMN**)

More obsolete terms:

Cystadenoma

Cystadenocarcinoma

Disseminated Peritoneal Adenomucinosis (DPAM)

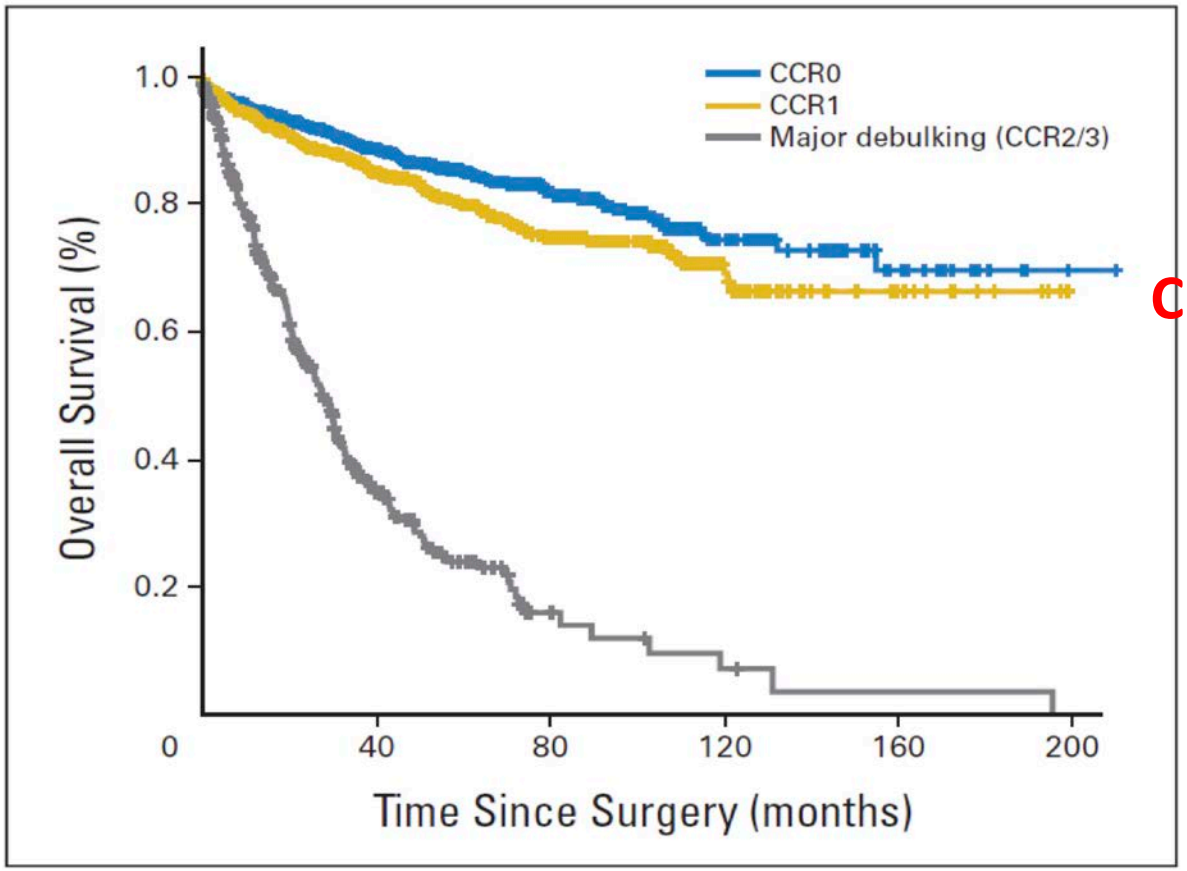
Peritoneal Mucinous Carcinomatosis (PMCA)

Pseudomyxoma Peritoneii (PMP)

Clinical syndrome of abdominal discomfort, bloating, and distension secondary to mucinous peritoneal deposits (acellular mucin and neoplastic epithelium)

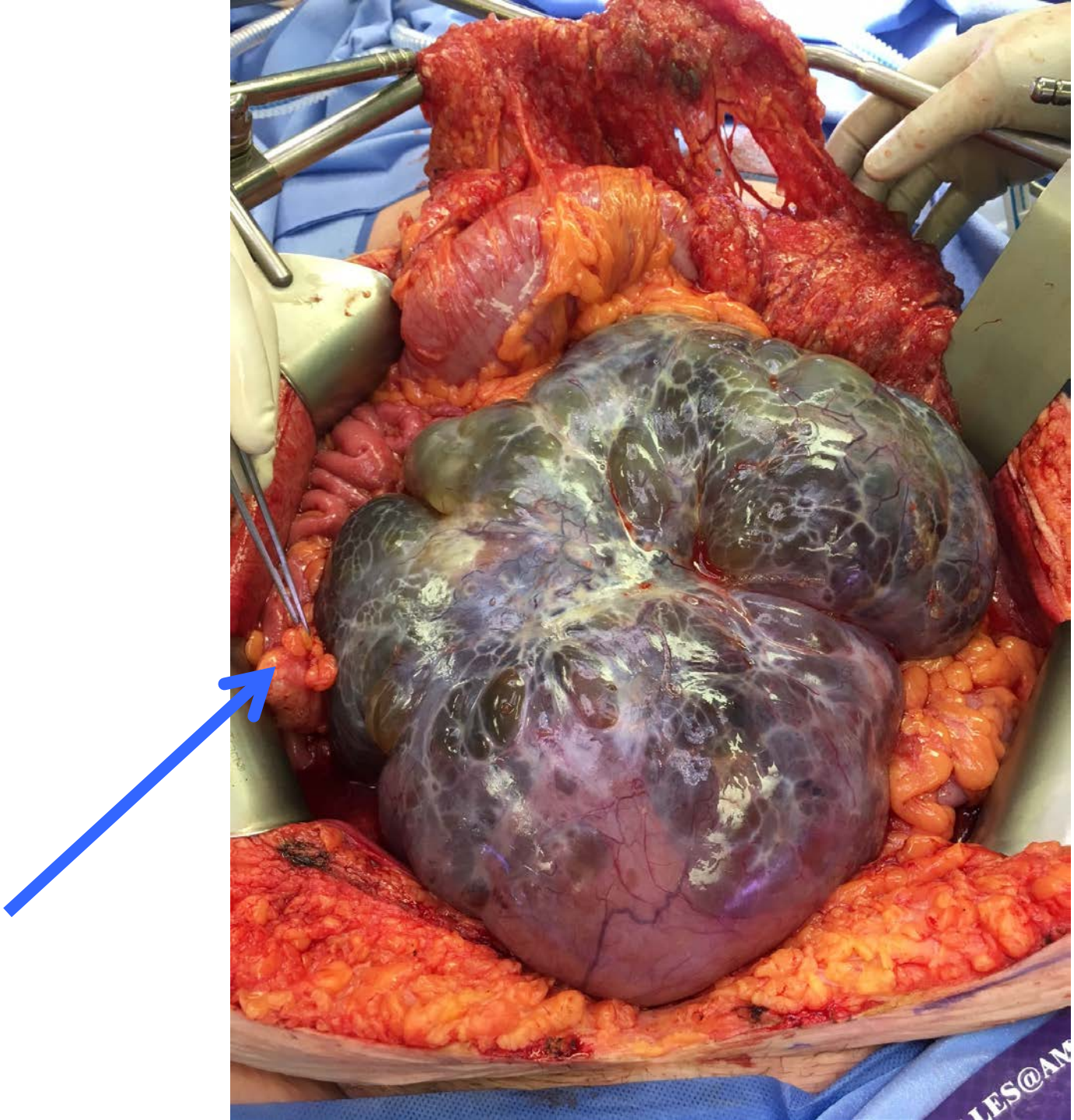
Majority of cases, secondary to a perforated LAMN

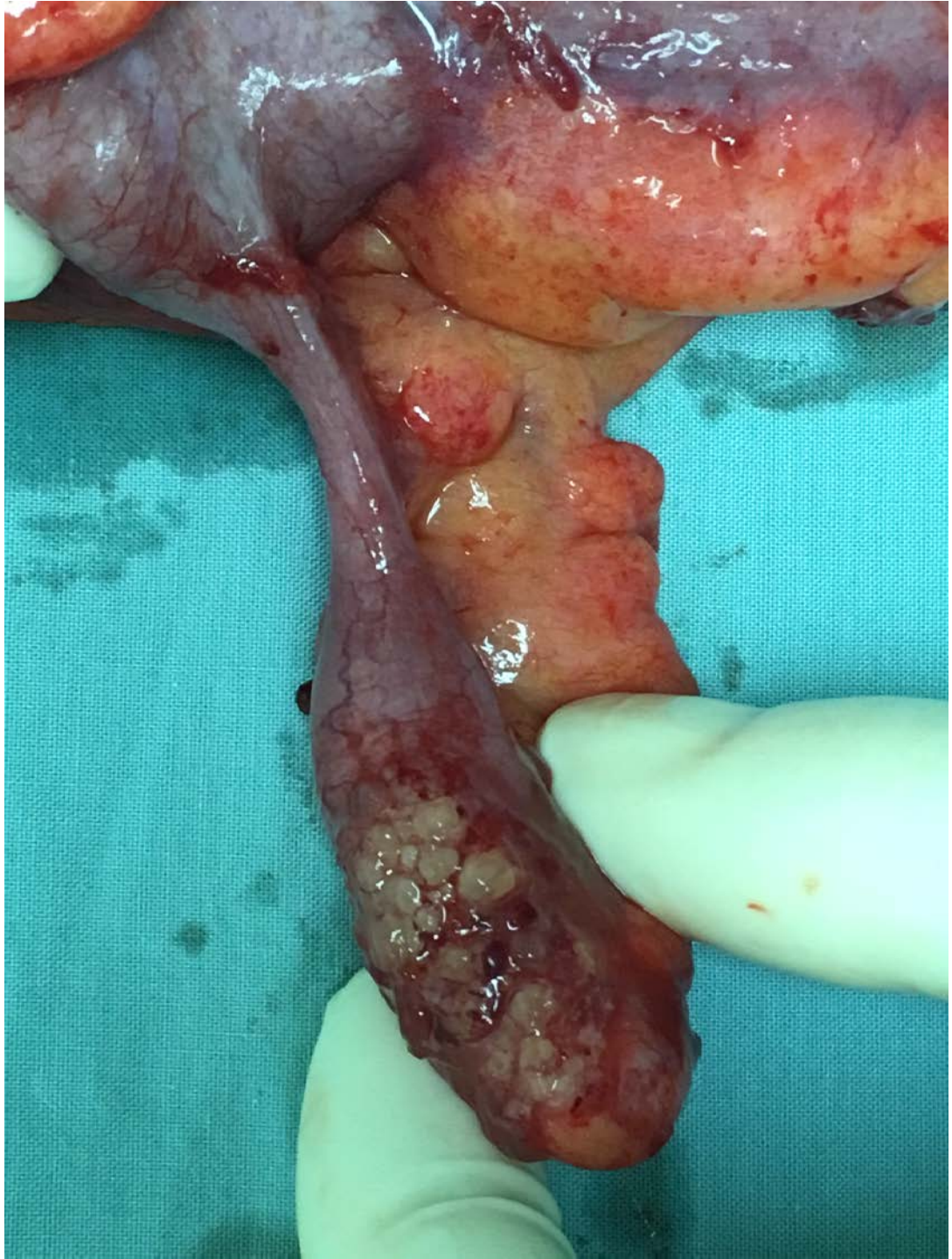
Pseudomyxoma Peritoneii (PMP)



CRS/HIPEC

Chua et al. 2012 J Clin Oncol





Approach to appendiceal mucocele

Non-ruptured

Appendectomy (cuff of cecum with stapler if required)

Avoid manipulation (grasp mesoappendix)

Low threshold to open (midline) if worried about rupture

Ruptured

Appendectomy (cuff of cecum with stapler if required)

Evaluate for disease (free mucin or nodules)

Biopsy

LAMN

Pathology review

Does not require a Right Hemi

<<5% have positive lymph nodes*

Non-perforated lesions have no risk of PMP

Perforated lesions require surveillance

Colonoscopy to rule of synchronous colonic pathology

*Gonzalez-Moreno et al. 2005 Ann Surg Onc

Summary

Assist in the diagnosis (high index of suspicion)

Multi-modal treatment options

Multi-factorial decision making

Complete cytoreduction is critical

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