

Whoops! Peritoneal Carcinomatosis: How to deal with it?

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Disclosures

- None

Summary

- Abdominal tumors that can present with peritoneal metastases
- Elective or emergency operation
- Rule of 90-10
- Identify all possible options
- Establish the severity of the peritoneal disease
- Is the data on your side?
- Logistical concerns: ALL politics are local

Emergency Surgery

- Surgery being done because of:
 1. Perforation
 2. Obstruction
 3. Bleeding
- Find peritoneal metastases. Plan:
 1. Take care of the emergency
 2. Determine burden of disease (ideally PCI)
 3. Multiple biopsies
 4. Go talk to the family



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Abdominal Tumors with Peritoneal Metastases

- Appendix
- Colon
- Ovary
- Stomach
- Small Bowel
- Pancreas
- Mesothelioma
- Others

Elective Surgery

- Symptomatic patients: Judgment call. If all stars are aligned, go for it.
- Rule of 90% planning and 10% getting it done.
- Good pre-operative work up should diminish the chance of Whoops!
- Like a good tailor, measure twice...cut once.
- Consider laparoscopy in cases with no evidence of metastatic disease and high tumor markers.

Elective Surgery

- After taking all precautions: Whoops! You find PC/PM
- Pancreas: Close
- Others: Close
- Mesothelioma: Well....

- Stomach: Discuss twice
- Small Bowel: Discuss twice

- Appendix
- Colon
- Ovary



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Why proceed with CRS and HIPEC?

- Which are the patients that benefit from cytoreductive surgery and HIPEC the most?
- They have in common:
 1. Low PCI
 2. Low level of aggressiveness of their tumor
 3. Complete cytoreduction

Appendix, Colon and Ovary

1. Histology
2. Burden of disease (PCI)
3. Location of disease
4. Can you achieve a complete cytoreduction?

Appendix, Colon and Ovary

-Histology

Low: 1 point High: 2 points

-Burden of disease (PCI)

Low: 1 point Moderate or High: 2 points

-Location of disease

Favorable: 1 point Unfavorable: 2 points

-Can you achieve a complete cytoreduction?

Yes: 1 point No: 2 points

4 points: Discuss Cytoreductive surgery and HIPEC

> 4 points: Biopsies and Close



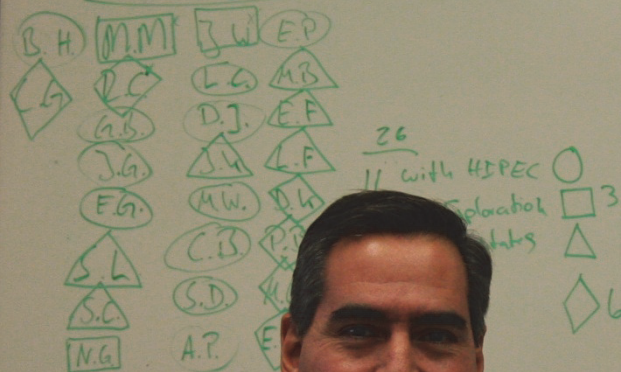
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- Is the data on your side?

- Colorectal Cancer

Reason for referral to PSM

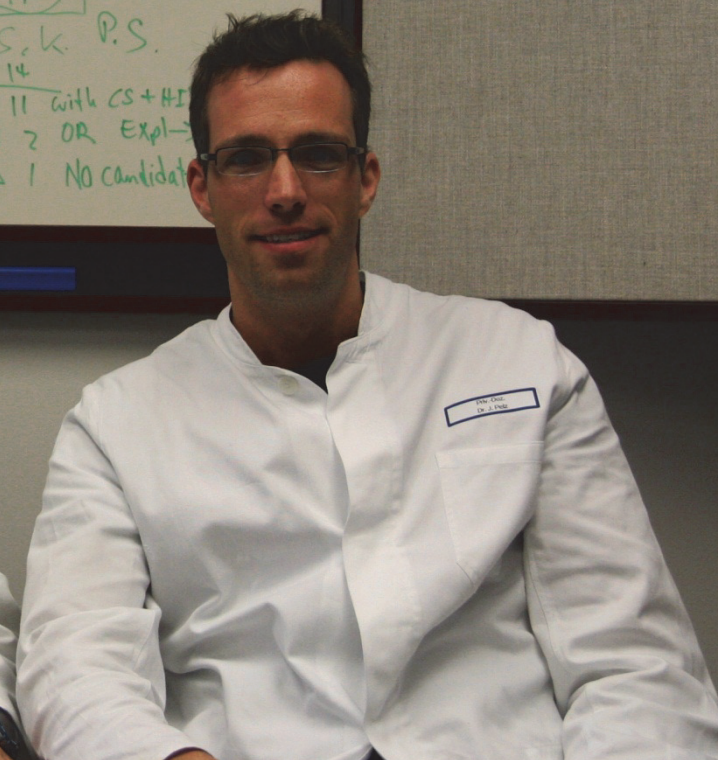
Disease Progression



Pt evaluation

S.G. G.B. C.H.
 G.M. J.W. S.D.
 M.V. F.F.
 Y.S. P.L.
 T.V. E.P.
 S.K. P.S.

14
11 with CS+HI
2 OR Expl-
1 No candidate



Staging Classification of Colon Cancer with Peritoneal Dissemination

Peritoneal Surface Disease Severity Score (PSDSS)

Clinical	CT-PCI	Histology
No symptoms 0	PCI < 10 (Low) 1	G1 G2 N- L- V- 1
Mild symptoms 1	PCI 10-20 (Medium) 3	G2 N+ and/or L+ and/or V+ 3
Severe symptoms 6	PCI > 20 (High) 7	G3 Signet Ring 9

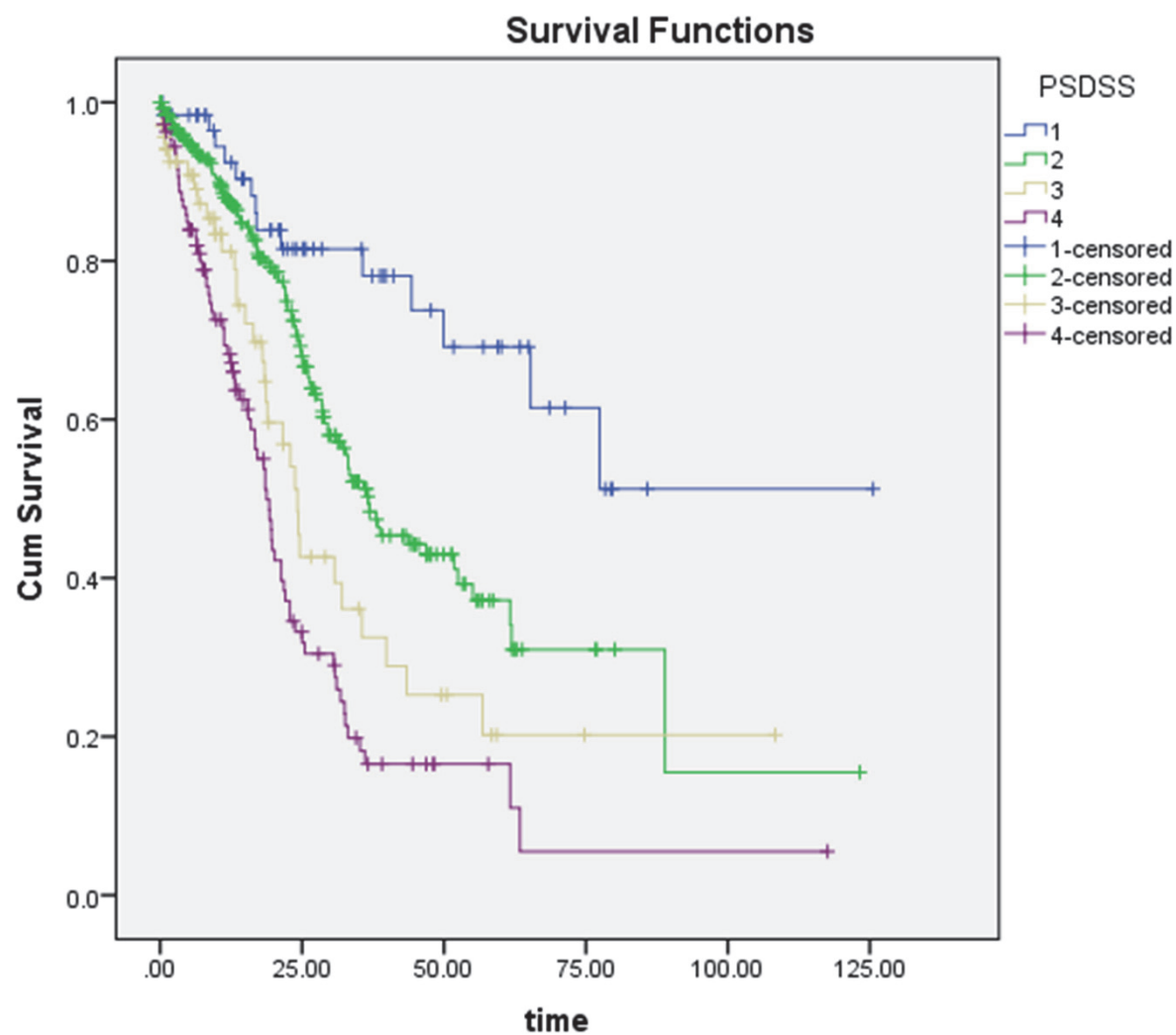
<u>Score</u>	<u>Stage</u>	<u>Proposed Treatment</u>
2-3	Stage I	Upfront CRS/HIPEC
4-7	Stage II	Neoadjuvant X 3months then CRS/HIPEC
8-10	Stage III	Protocol
>10	Stage IV	Palliative



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CRS + HIPEC patients by PSDSS

n=498



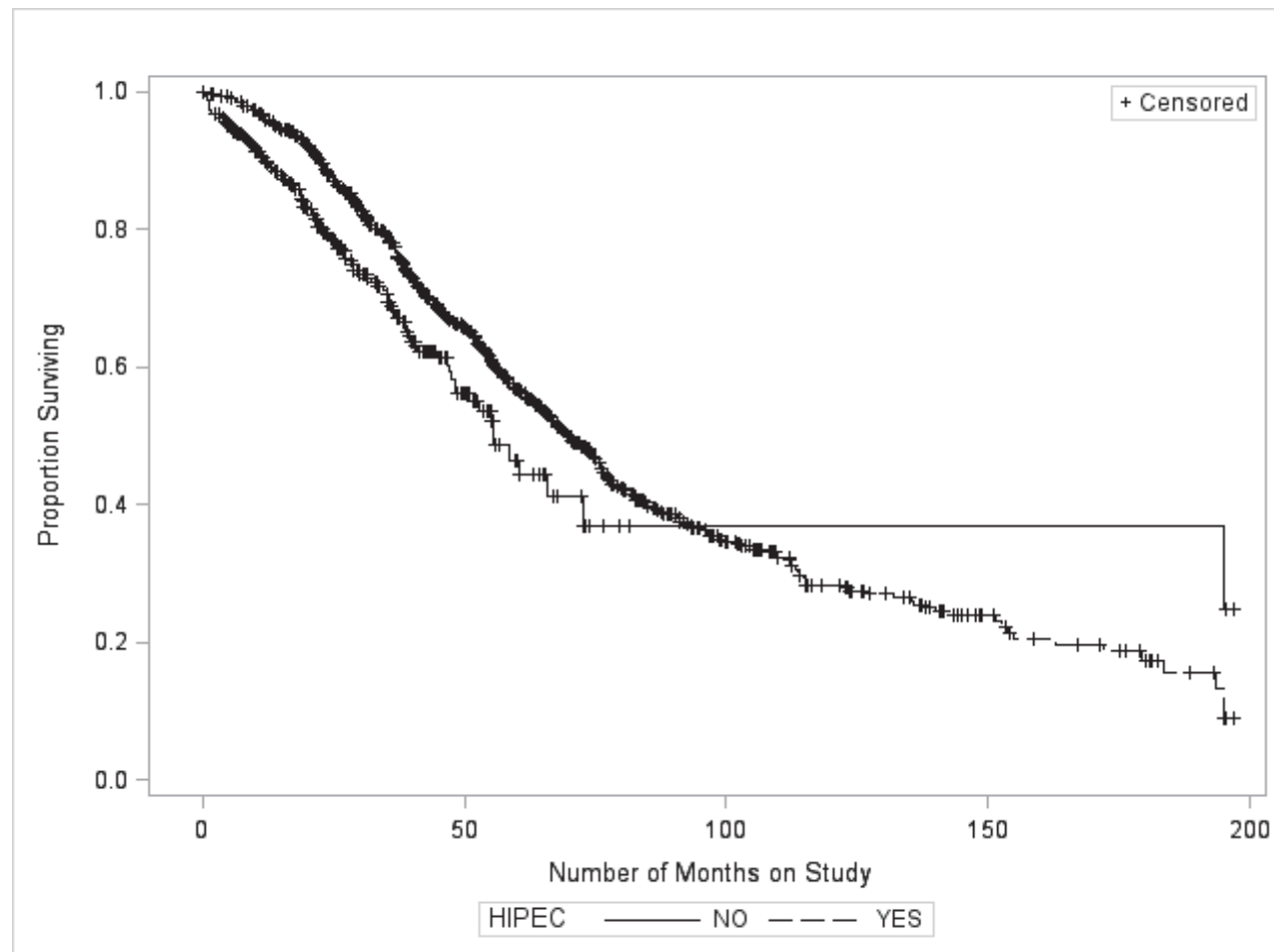
PSDSS	N	MS
I	63	85
II	258	37
III	69	24
IV	108	18

$p < 0.001$

• Epithelial Ovarian Cancer

HIPEC vs no HIPEC

n=1,465



	HIPEC	No-HIPEC
N	1,051	414
	74m	55m

p = 0.002



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1,051 CRS + HIPEC patients

- Time of 1st HIPEC treatment:

-Group 1 Upfront CRS + HIPEC	66	(6%)
-Group 2 Neo-adjuvant therapy	169	(16%)
-Group 3 CRS + HIPEC at first recurrence	369	(35%)
-Group 4 CRS + HIPEC at some point	447	(42%)



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1,051 CRS + HIPEC patients

- Time of 1st HIPEC treatment:

-Group 1 Upfront CRS + HIPEC 66 (6%) 115m

-Group 2 Neo-adjuvant therapy 169 (16%) 76m

-Group 3 CRS + HIPEC at first recurrence 369 (35%) 69m

-Group 4 CRS + HIPEC at some point 447 (42%) 74m

p= 0.415

Peritoneal Surface Disease Severity Score (PSDSS) of Ovarian Cancer with Peritoneal Dissemination

Clinical ¹	CT- PCI ²	Histology
No symptoms 0	PCI < 10 (Low) 1	G1 G2 N- L- V- 1
Mild symptoms 1	PCI 10-20 (Medium) 3	N+ and/or L+ and/or V+ 3
Severe symptoms 6	PCI > 20 (High) 7	G3 Clear cells 9

Score	Stage
2-3	Stage I
4-7	Stage II
8-10	Stage III
>10	Stage IV

1 Clinical Symptoms:

Mild symptoms = weight loss < 10 % of body weight
Mild abdominal pain, some ascites

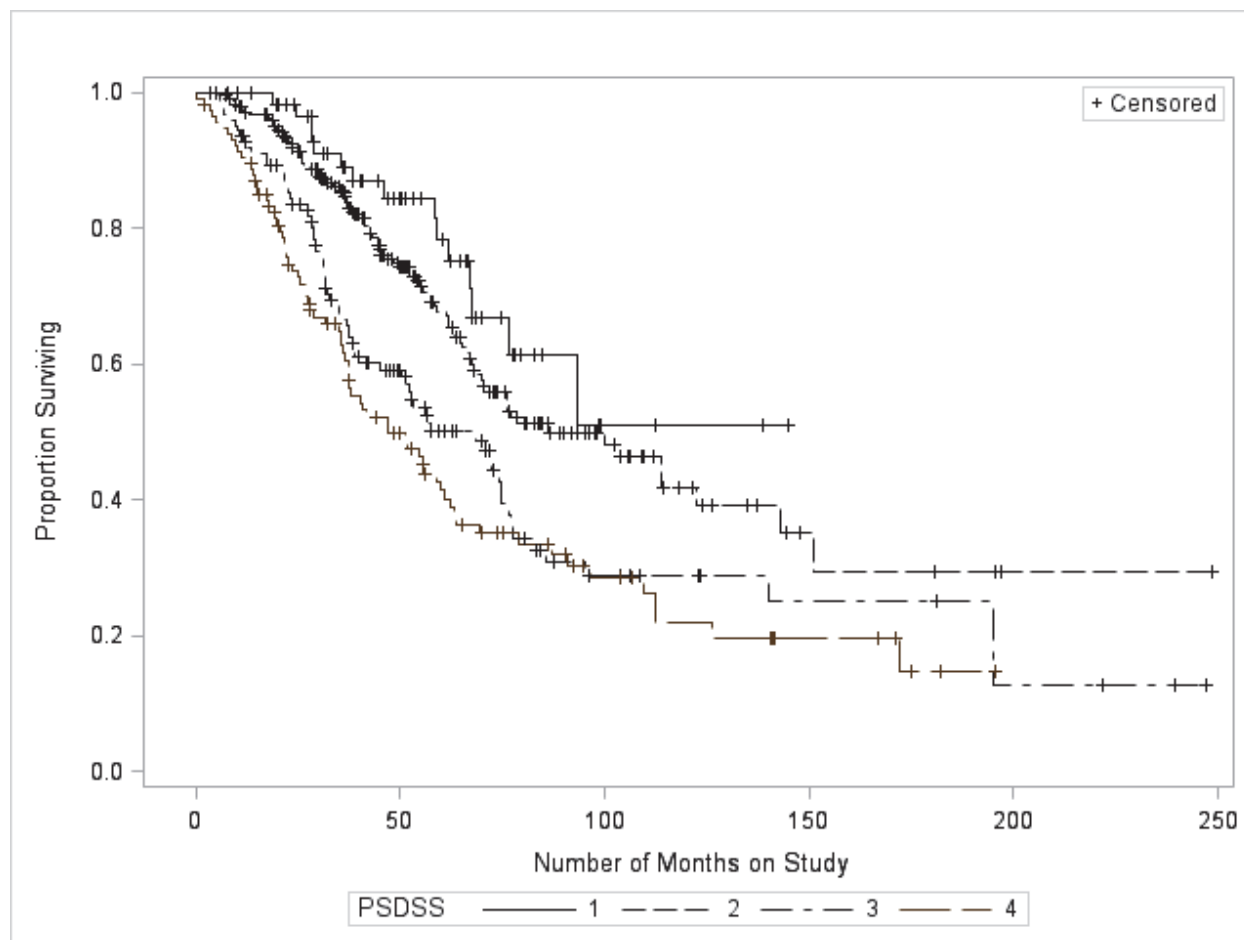
Severe symptoms = weight loss > 10 % of body weight
unremitting pain, bowel obstruction, symptomatic ascites

2 Peritoneal Cancer Index (PCI)

By imaging (CT, PET, MRI) or Exploration (laparoscopy or evaluation at time of first operation (in synchronous peritoneal carcinomatosis)

CRS + HIPEC patients by PSDSS

n= 553



PSDSS	N	MS
I	64	>145
II	248	86
III	125	68
IV	116	46

$p < 0.001$



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- Mucinous Appendiceal Neoplasms

Evaluation of a Peritoneal Surface Disease Severity Score (PSDSS) in 229 patients with mucinous appendiceal neoplasms with or without peritoneal dissemination

Jesús Esquivel, MD, FACS. Susana Sánchez García, MD

n=384 Mucinous Appendiceal neoplasms

**Retrospective study (2005-2013) in
St Agnes Hospital (Baltimore, MD)**

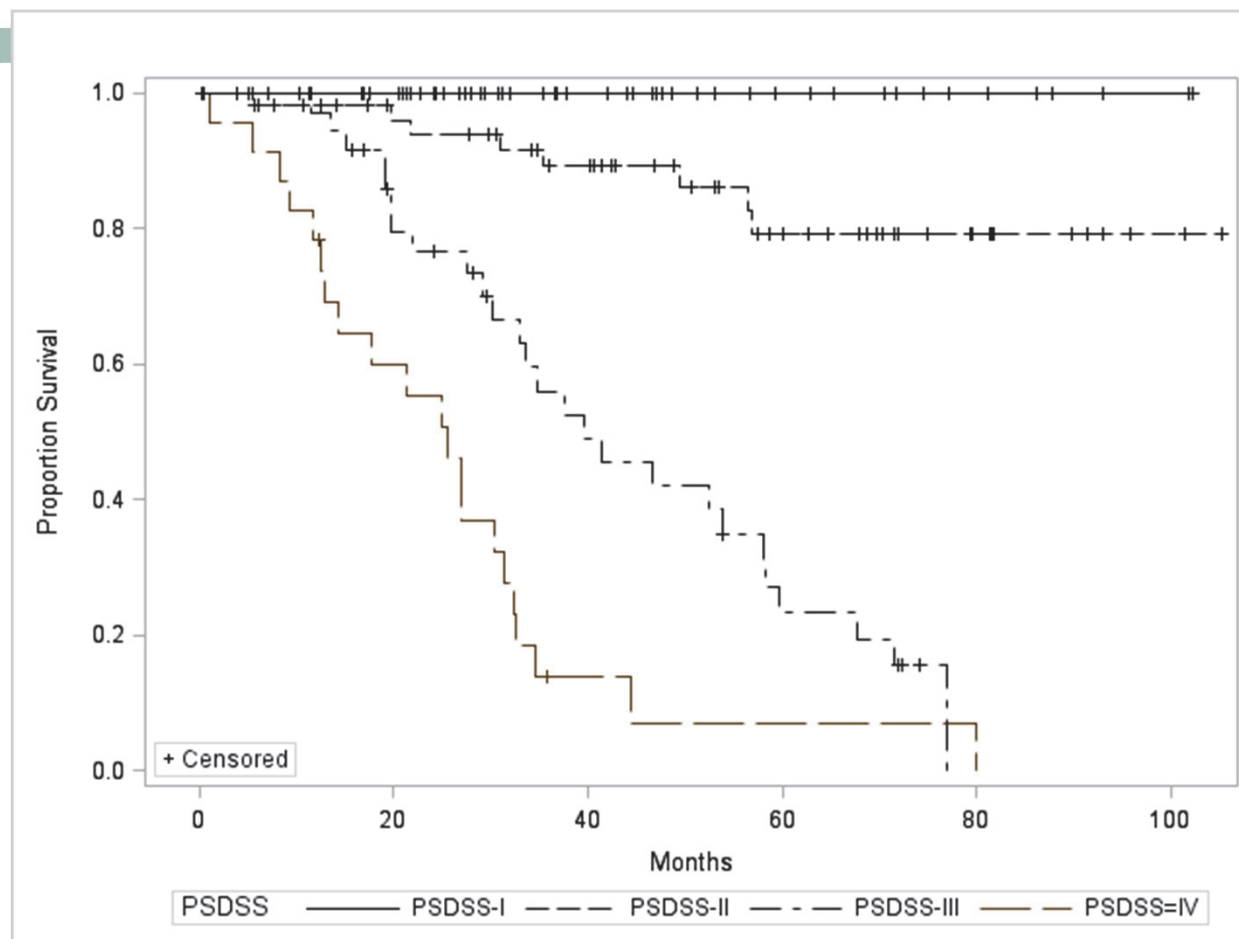


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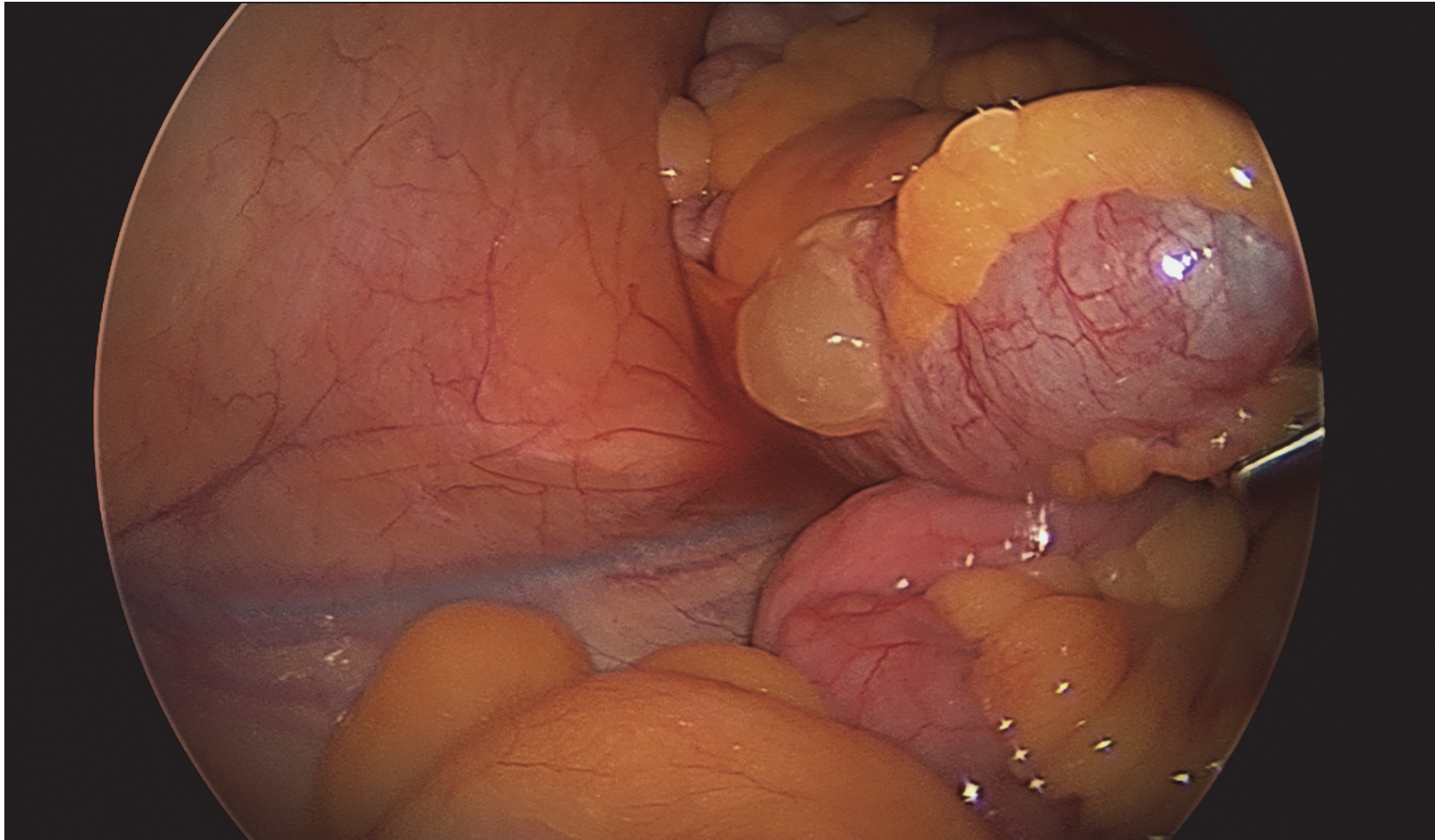
Results

<u>PSDSS</u>	<u>n</u>
0	19
I	67
II	59
III	43
IV	41

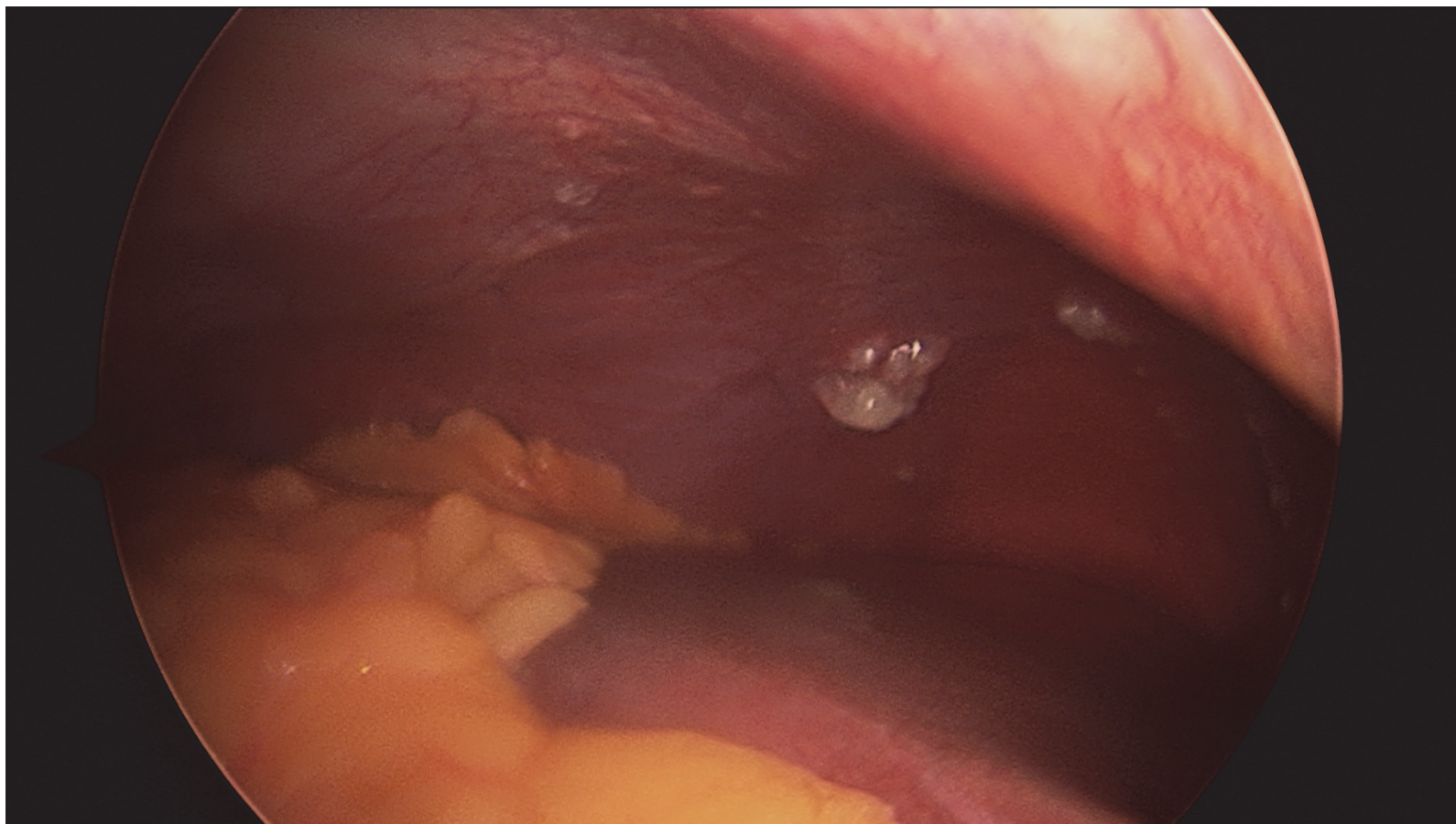
Figure 1. Survival analysis in patients with CRS and HIPEC classified by PSDSS



Laparoscopy for suspected appendicitis



Diagnostic Laparoscopy



Conclusions

- From time to time, despite all efforts, you will say Whoops! I found peritoneal metastases
- Low histology, low PCI, favorable location and ability to achieve a complete cytoreduction are a must
- ALL politics continue to be local
- If you can (logistically and legally) do the CRS + HIPEC
- Consider time to definitive therapy if you close
- Need to start a Whoops! I found PM registry