

NEN PRECEPTORSHIP  
**LA PRATICA CLINICA NELLE  
NEOPLASIE NEUROENDOCRINE**

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# Criteri di scelta della terapia chirurgica

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# Criteria for Surgery: the two pillars

## **Disease-related factors**

**Stage**

**Diameter**

**Symptoms**

## **Aims**

**To cure**

**To control disease**



# Criteria for Surgery: Stage

## Stage I-III

To cure

To control disease

## Stage IV

To cure (?)

To control disease



# Stage I-III

## Criteria for surgery:

**Tumor size**

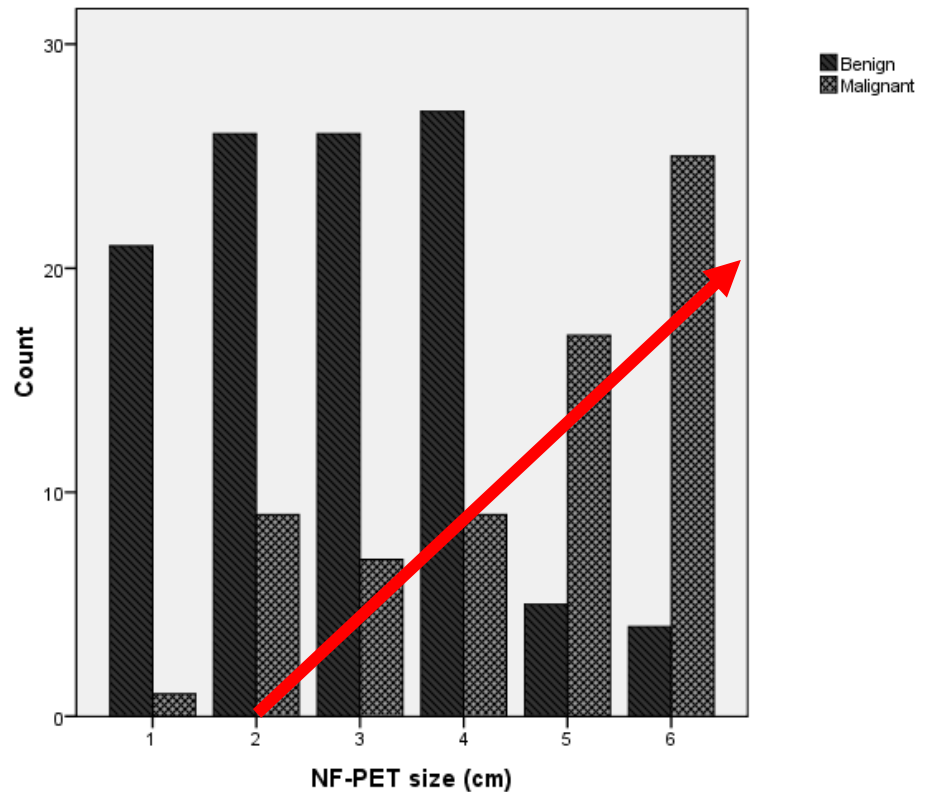
**Presence of syndrome**

**Vascular involvement**

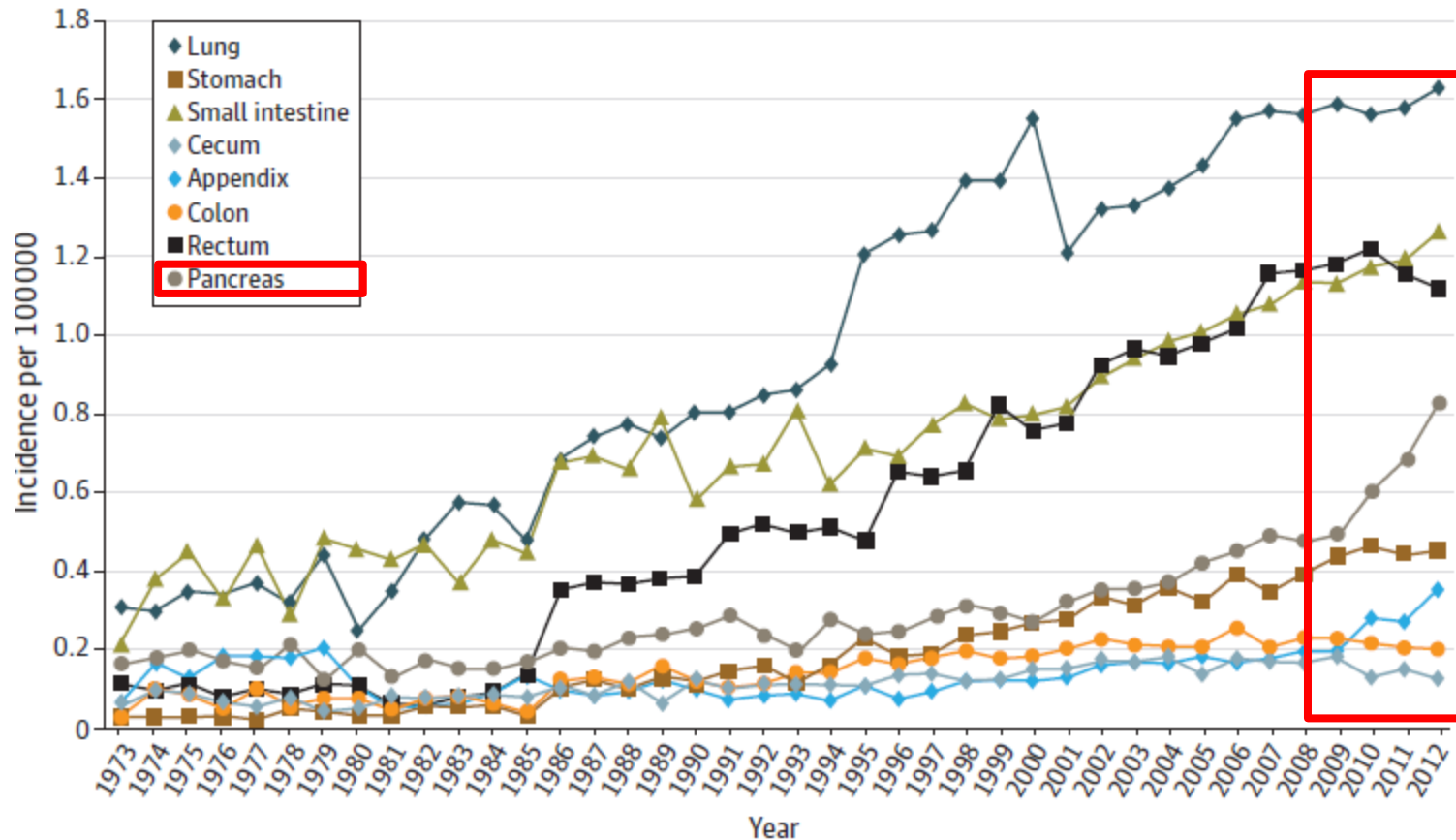


# Pancreatic NET: value of diameter

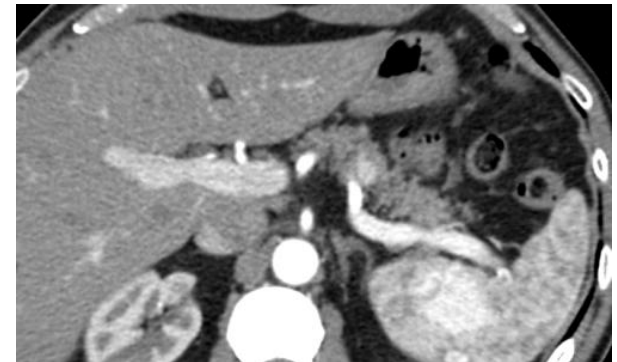
**Tumor diameter is one of the most important prognostic factor for PanNET**



# The “Tsunami” of PanNET



# A common finding



# PanNET<2 cm: follow-up is safe...

Authors	Median follow-up (months)	No change in tumor size <i>n</i> (%)	Growth > 20% <i>n</i> (%)	Surgery during follow-up <i>n</i> (%)
Lee et al.	45	77 (100)	0 (0)	0
Gaujoux et al.	34	40 (87)	6 (13)	8 (17)
Kishi et al.	45		3 (16)	0
Rosenberg et al.	28	NR	NR	0
Jung et al.	NR	70 (82)	3 (4)	12 (14)
Sadot et al.	44	51 (49)	NR	26 (25)
	<b>28-45</b>	<b>49-100%</b>	<b>0-16%</b>	<b>14-25%</b>

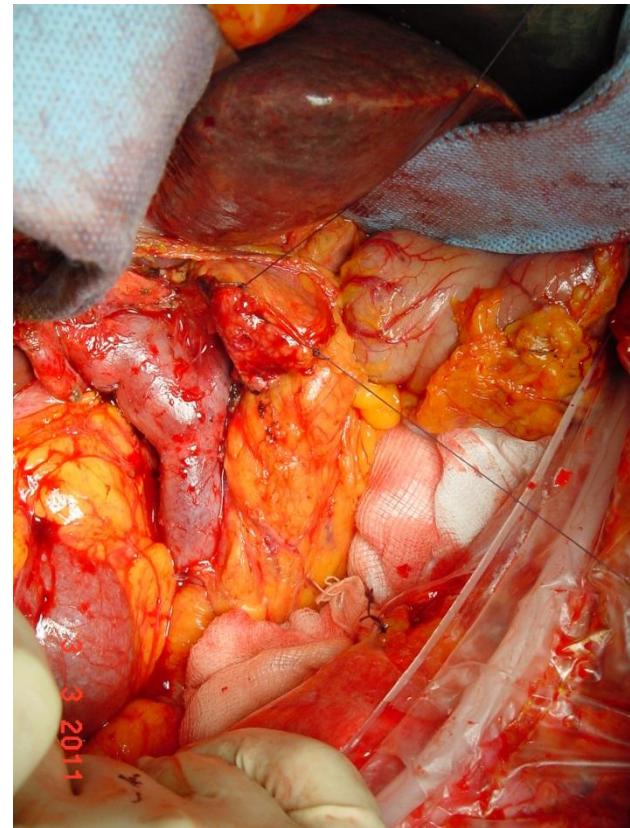
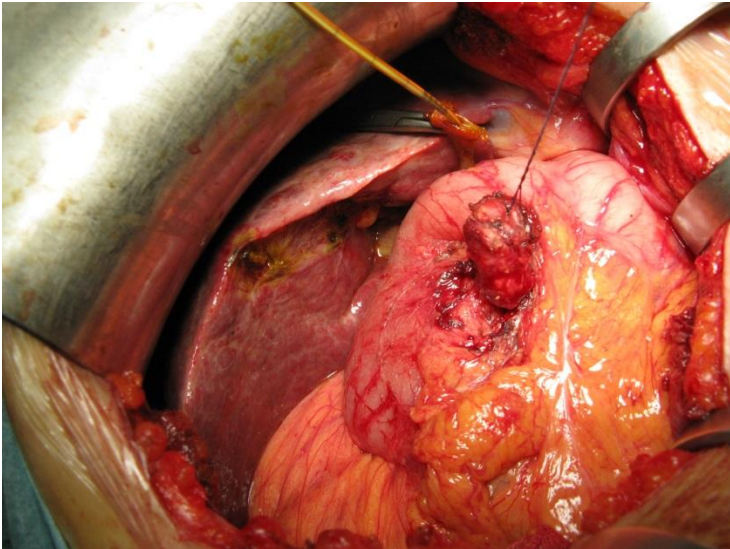


Sp

ents



# Which type of surgery for PanNET<2 cm? Enucleation vs standard resection



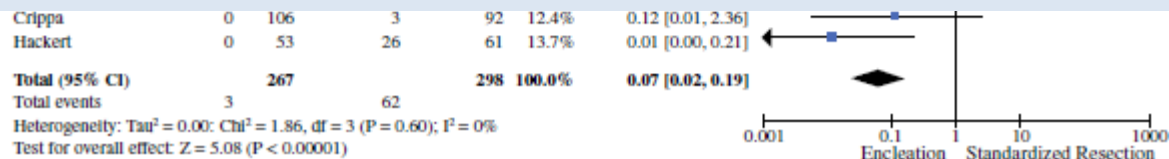
# Enucleation vs resection

## (e) Endocrine Insufficiency

Study or Subgroup	Enucleation		Standardized Resection		Weight	Odds Ratio		Odds Ratio	
	Events	Total	Events	Total		M-H, Random, 95% CI		M-H, Random, 95% CI	

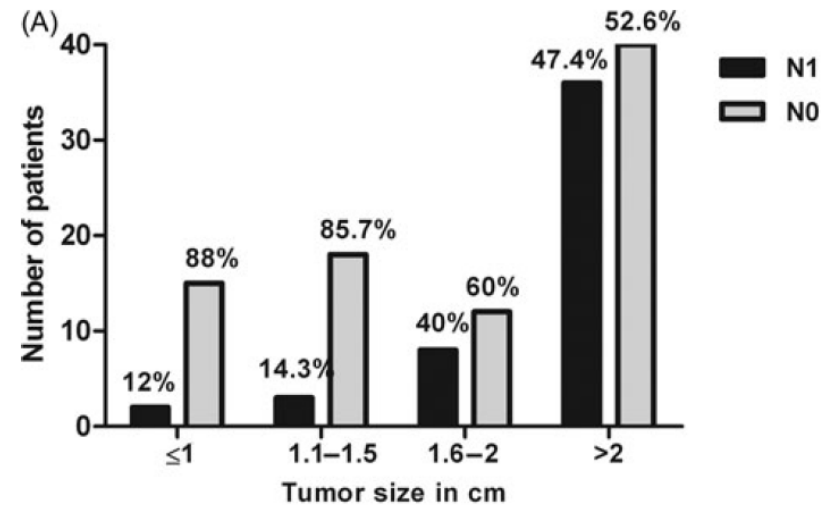
**WARNING**

Enucleation is not associated with a proper lymphadenectomy



Risk of N+ is high for PanNET  
> 2 cm

Pancreatic resection +  
lymphadenectomy for  
PanNET > 2 cm



# Stage I-III

## Criteria for surgery:

Tumor size

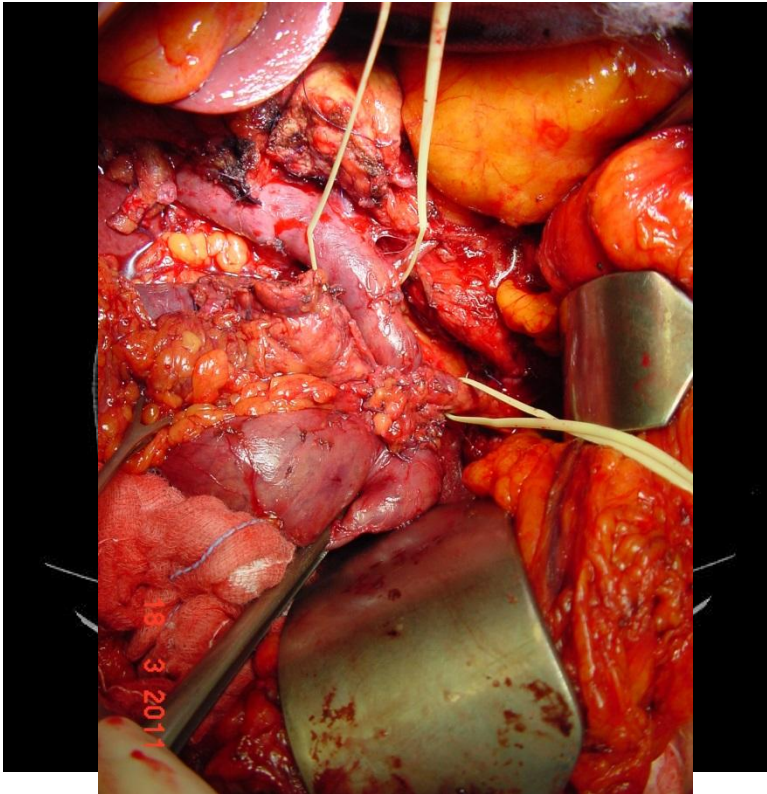
Presence of syndrome

Vascular involvement



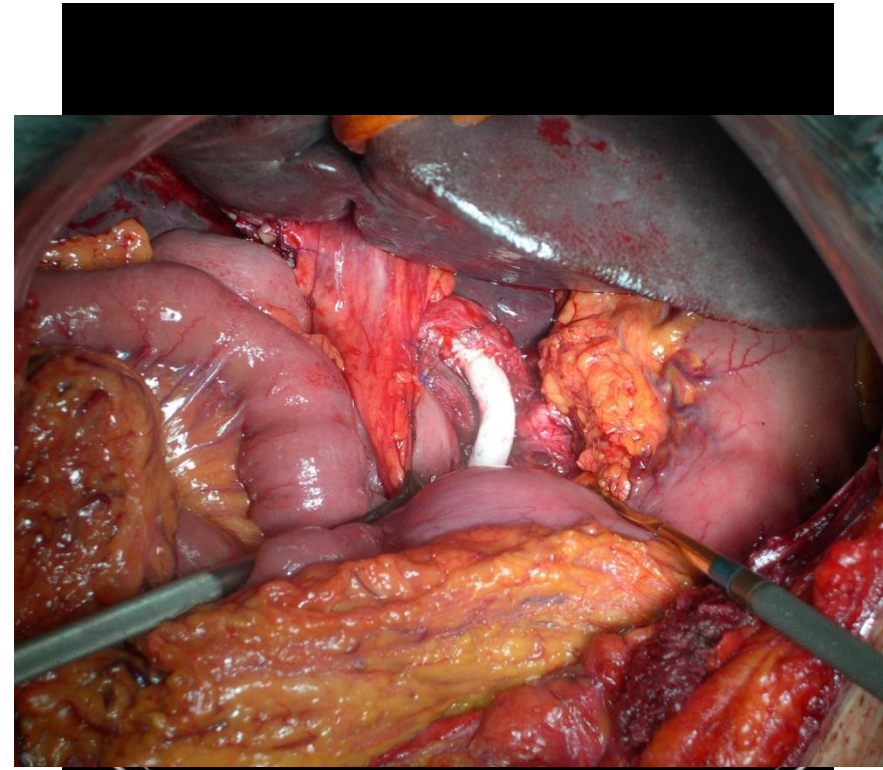


## **Superior/Portal Vein**



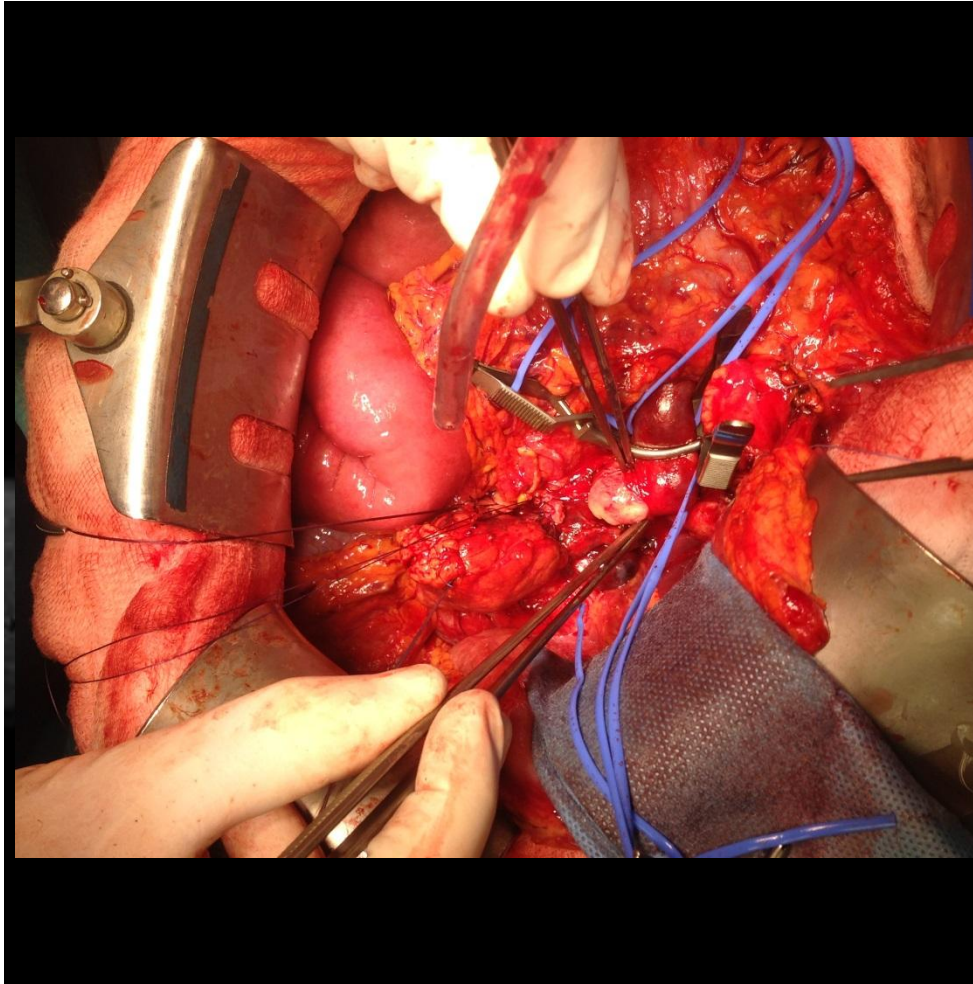
**Borderline resectable**

## **Superior Mesenteric Artery**



**Locally advanced**

# Portal vein thrombosis





***“My fellow Americans, ask not what your country can do for you; ask what you can do for your country.”***



***“My fellow ONCOLOGISTS, ask not what your SURGEON can do for you; ask what you can do for your SURGEON”***

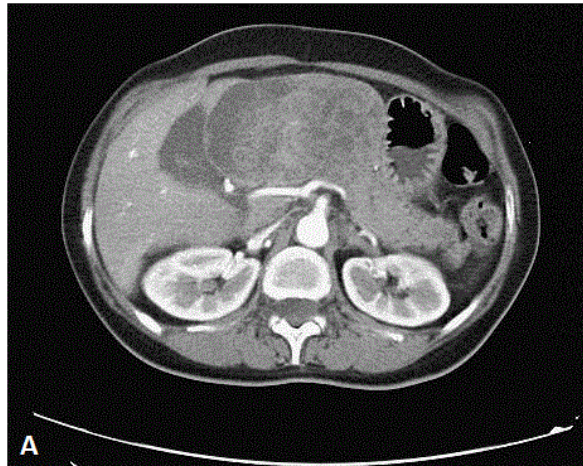


# Morphology vs biology

**Consider neoadjuvant treatment:**

**PRRT**

**Chemotherapy**



# Criteria for Surgery: Stage

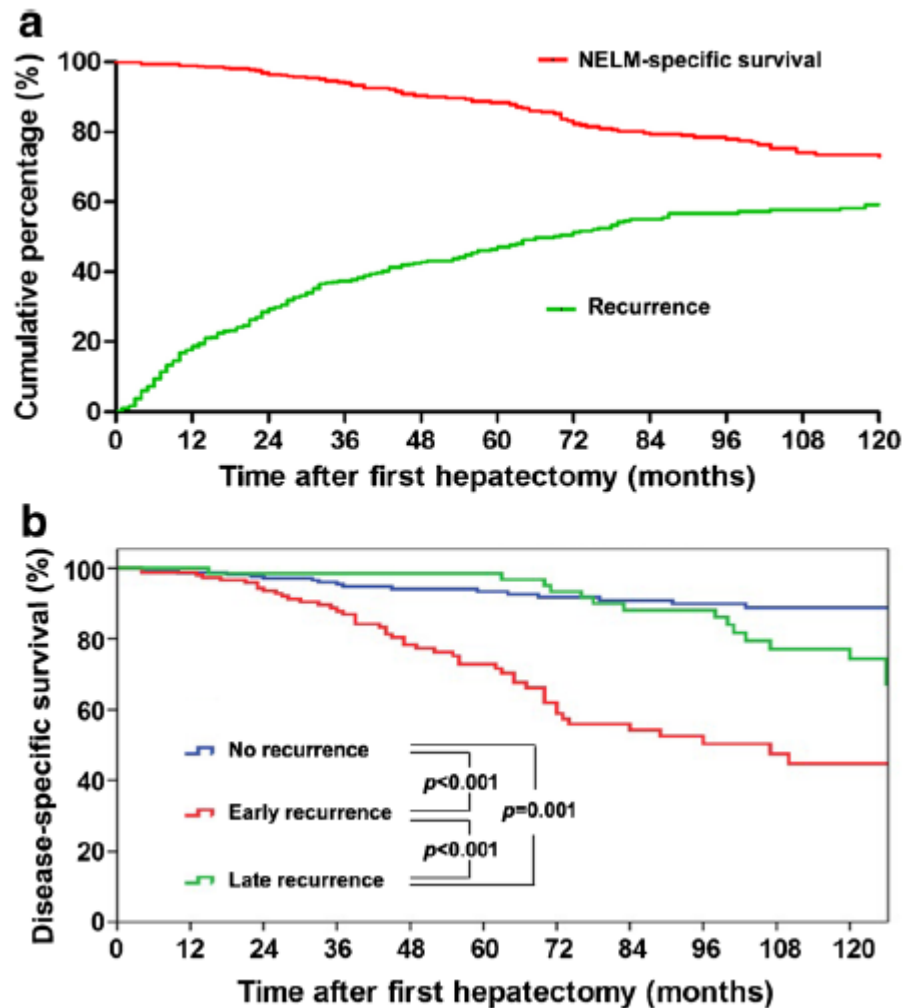
**Stage IV**

**To cure (?)**

**To control disease**



# Recurrence after curative resection



# Oligometastatic disease: an illusion

Patient	Primary Tumor	Type of Hepatectomy	No. LM Preoperatively Identified on Imaging							
			Pathologic Findings		Ultrasound Examination		CT-Scan	MRI	Somatostatin Receptor Scintigraphy	Intraoperative Findings
			No. LM	Size cm (min-max)	Normal	Contrast Enhanced				
1	Not identified	Right	13	(0.6–7)	8	8	6	7	0	9
2	Stomach	Left	5	(0.25–1.2)	4	4	4	3	2	5
3	Insulinoma	Right	22	(0.1–2.5)	7	8	5	10	3	10
4	Glucagonoma	Left	59	(0.1–3.5)	4	7	6	13	3	18
5	Insulinoma	Left	9	(0.7–5.5)	4	NA	5	9	0	6
6	Small bowel	Right	16	(0.5–3.5)	7	7	4	7	3	4
7	Small bowel	Right	13	(0.5–5)	6	NA	7	7	10	10
8	Small bowel	Left	12	(0.1–1.4)	2	3	3	2	0	3
9	Lung carcinoma	Right	8	(0.2–5)	3	NA	4	5	3	5
10	Zollinger-Ellison	Left	88	(0.1–5)	0	8	2	6	3	8
11	Glucagonoma	Right	28	(0.2–5)	15	NA	12	20	7	17
Total			273		60	45	58	89	34	95
Mean			24.8 ± 25.7		5.4 ± 3.9	6.4 ± 2.1	5.3 ± 2.7	8.1 ± 5.0	3.1 ± 3.0	8.6 ± 5.0
Median			13		4	7	5	7	3	8

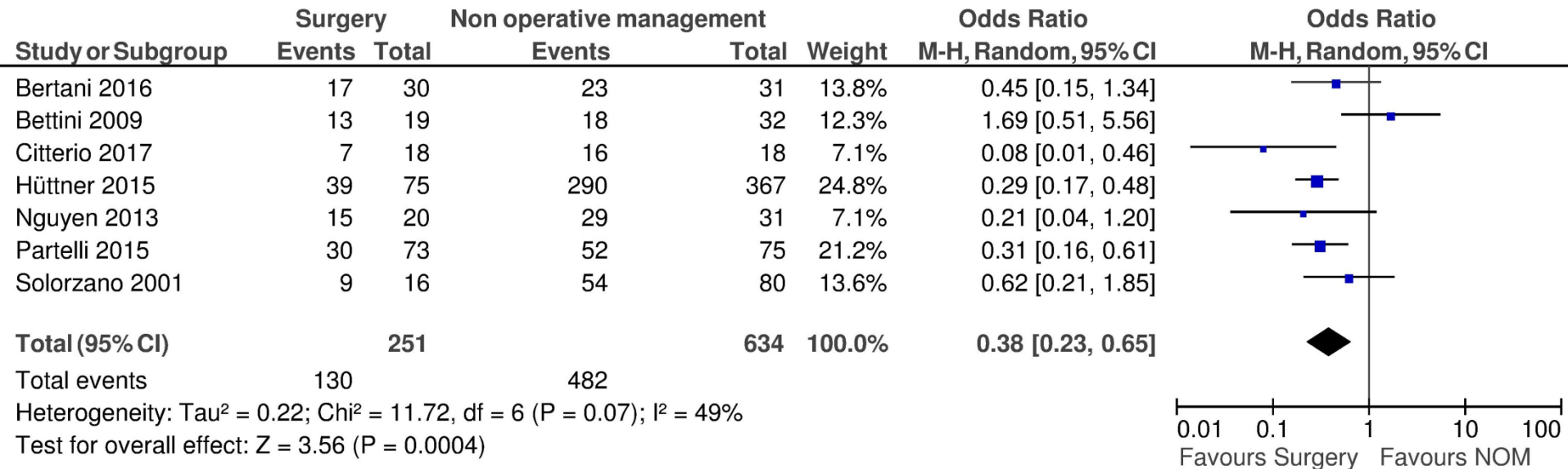
NA indicates non applicable.

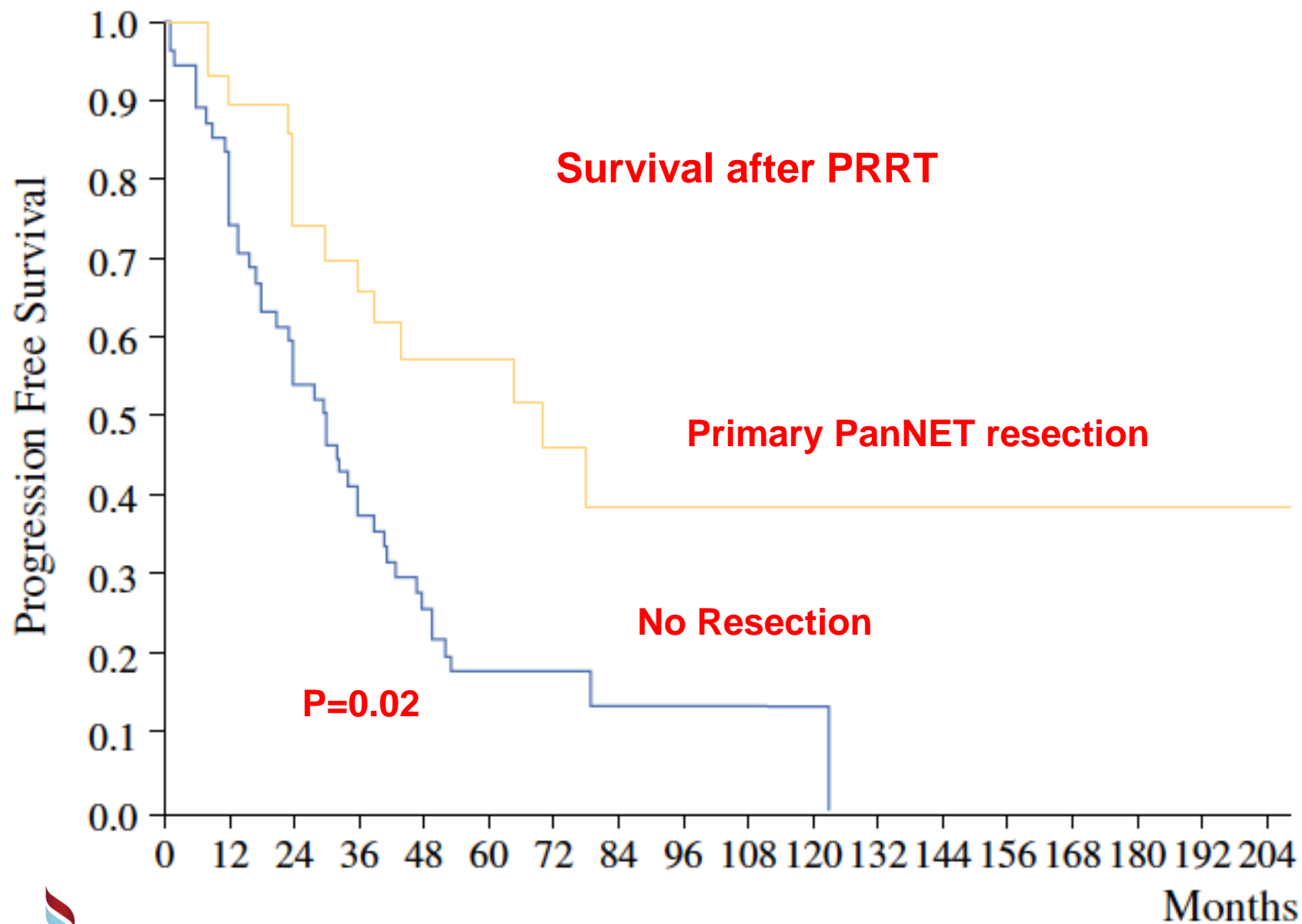
**The real aim: To kick the can**



# Role of palliative pancreatic resection

## Overall survival



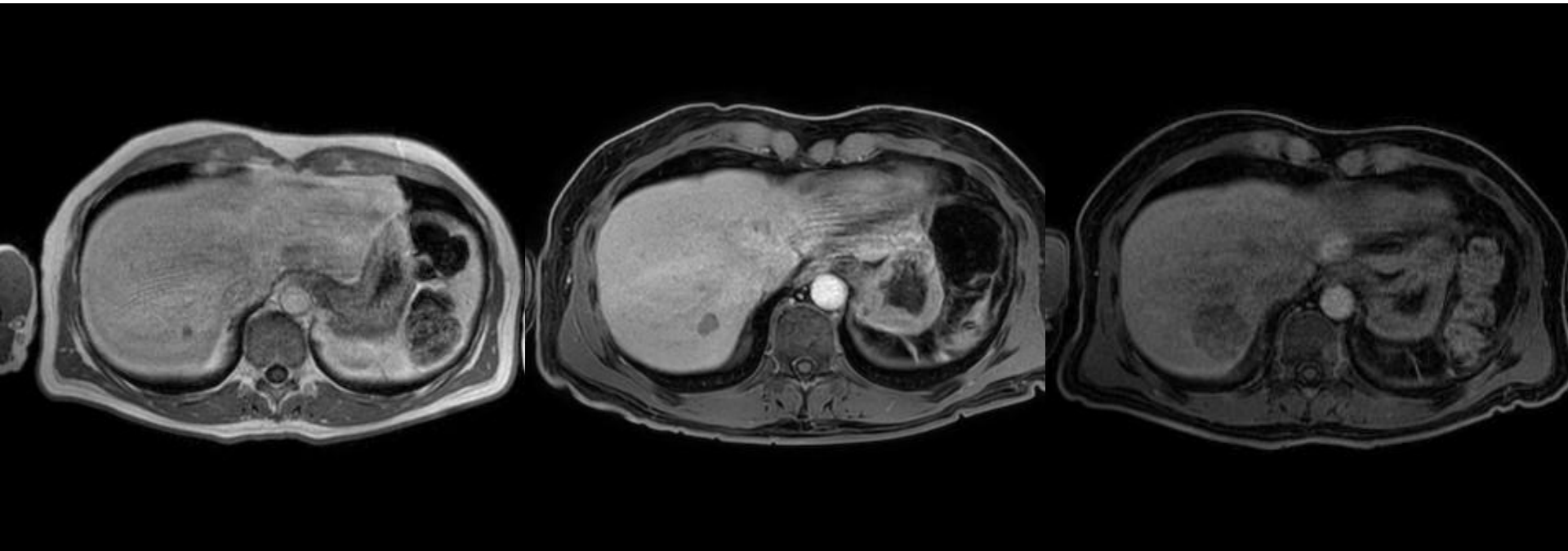


# Single metastasis progression

2015

2016

2018



Somatostatin  
Analogues

Everolimus

Surgery



# Single metastasis progression

Local treatment can control discrete sites of progression



To allow patients to continue their existing therapy

## Patient Population:

- 59 patients seen between 1/2014 and 5/2017 with metastatic GEP-NETs who underwent a local treatment for focal progression.
- Patients undergoing lobar HAE or cytoreductive hepatic surgery were not included.

