Aplicaciones de cirugía mínimamente invasiva en Oncología: diagnóstica, terapéutica, paliativa

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70´s-80´s : Palmer, Manhes, Bruhat, Semm

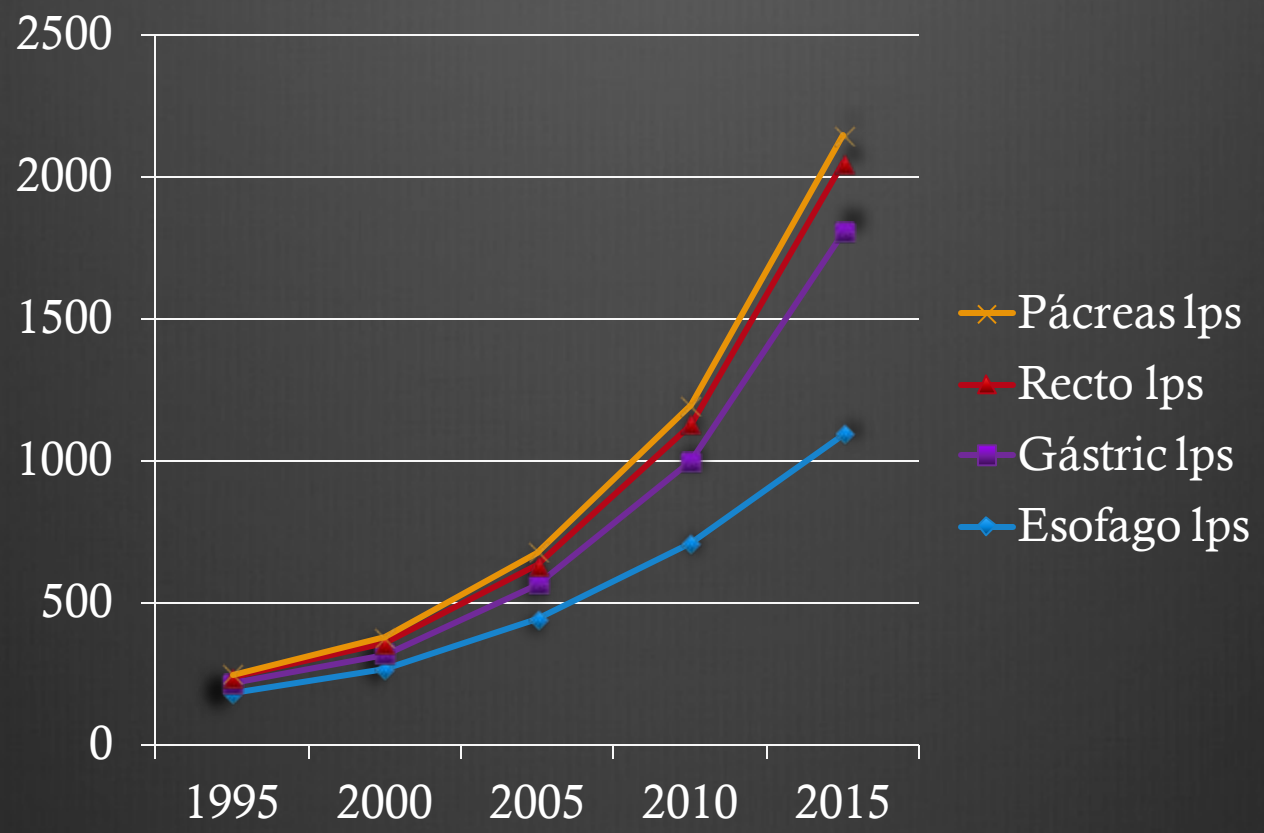
1987 Mouret colecistectomía laparoscópica seguido de Dubois en París, McKernan y Saye en Georgia, Reddick y Olsen en Tennessee, Cuschieri y Nathanson en Escocia y Perrisat en Burdeos.

90´s rápido desarrollo – Cuschieri: no hay otro ejemplo de difusión tan rápida de un procedimiento quirúrgico en toda la historia de la cirugía

15 años

Cirugía oncológica laparoscópica
PREVENCIÓN: ¿resultados…?

Antonio Lacy, Lancet 2002


2500
2000
1500
1000
500
0
1995
2000
2005
2010
2015
Pácreas lps
Recto lps
Gástric lps
Esofago lps

¿Cirugía lps terapéutica?

¡¡¡ Sí….!!!!

- Neurocirugía -> abordaje transesfenoidal a fosa anterior y silla turca
- Cirugía cervical: tiroides, paratiroides
- Cirugía torácica: resecciones pulmonares, mediastino
- Cirugía abdominal, pélvica y de retroperitoneo: resecciones de todos los órganos
- Cirugía ortopédica
- Cirugía vascular
- Cirugía plástica y reconstructiva

Lps terapéutica: posibilidades

Cirugía oncológica: modalidades

- Diagnóstica y clasificadora
- Preventiva
- De ayuda
- Curativa
- Reductora, de comprobación y de tumor residual
- De las metástasis
- Paliativa
- Reconstructiva: superficial y visceral

- Ovario, linfomas
- CT – poliposis
- SNut, Acc vasc

- Obstrucc, hemorr, RF,…
- Rec tránsito, estomas…

Cirugía paliativa laparoscópica

- Indicaciones:
  - Obstrucción
  - Sangrado
  - Otros – dolor, fístulas, incontinencia…
- Factibilidad: igual que la cirugía con intención terapéutica
- Condicionante relativo: recaídas (cirugía previa en mismo compartimento)

Laparoscopia diagnóstica

- De existencia de tumor
- De naturaleza del tumor: biopsia
- De extensión tumoral - clasificadora
- De comprobación – 2nd look
- De la recidiva

Laparoscopia diagnóstica: consideraciones especiales

1. Laparoscopia de estadiaje en cáncer gástrico
2. Laparoscopia de estadiaje en cáncer de páncreas

Laparoscopia diagnóstica en cáncer gástrico

Fundamento:

- Detección de M1 ocultas en TAC – 10-40%
  - Supervivencia media < 1 año
- Citología peritoneal (+): 4-10% -> indicador de
  - Enfermedad avanzada
  - Recaída precoz tras resección
  - ⬇ DSS
  - Supervivencia media >/= 1 año

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UPPER GI

Laparoscopy a
guide treatme

RCS
ADVANCING SURGICAL STANDARDS

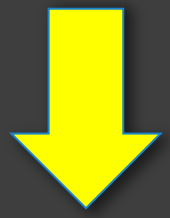
UPPER GI SURGERY

Ann R Coll Surg Engl 2015; **97:** 146–150
doi 10.1308/003588414X14055925061270

The current role of staging laparoscopy in oesophagogastric cancer

L Convie, RJ Thompson, R Kennedy, WDB Clements, PD Carey, JA Kennedy

NCCN, AJCC y JGCA



L Est sistemática

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Laparoscopia diagnóstica en cáncer gástrico: Cit (+) REV JSO 2014

Journal of Surgical Oncology 2014;110:291–297

REVIEW

The Critical Role of Peritoneal Cytology in the Staging of Gastric Cancer: An Evidence-Based Review

JAMES P. DE ANDRADE, MD AND JAMES J. MEZHIR, MD*
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Positive peritoneal cytology (Cyt+) is an important staging tool for patients with locally advanced gastric cancer. The objective of this review is to evaluate the current literature regarding cytology evaluation in patients with gastric cancer and to provide recommendations on the inclusion of this powerful prognosticator in patients with this disease. A literature search was performed for recent and pertinent studies evaluating peritoneal cytology in patients with gastric adenocarcinoma. Peritoneal cytology as the only evidence for M1 disease is present in up to 10% of patients with locally advanced gastric cancer; survival in the setting of Cyt+ is dismal when gastrectomy is the first line of therapy. Improved survival is associated with response to chemotherapy indicated by conversion to negative cytology, good performance status, and antral tumors. Highly select patients with Cyt+ treated with gastrectomy show improved survival in only some of the available studies. There are high quality studies that support the routine practice of peritoneal cytology evaluation in patients with locally advanced gastric cancer. The role of gastrectomy remains unclear in patients with Cyt+ and clinical trials are needed to define the best treatment option for this select group of patients.
J. Surg. Oncol. 2014;110:291–297.

Laparoscopia diagnóstica en cáncer gástrico: Cit (+) estudios y resultados

TABLE I. Results of Studies Examining the Role of Peritoneal Cytology in Patients With Gastric Cancer After Curative Resection

Study, year published	R0 resection (N)	Cyt+ N (%)	Risk factors for Cyt+	Survival after resection		Other pertinent findings
				Cyt−	Cyt+	
Bonenkamp, 1996 [11]	457	20 (4.4)	Serosal invasion, increasing T stage, node positive disease	>3 years*	1.1 year*	Cyt+ was a negative prognostic factor also in R1 resections
Bando, 1999 [12]	411	30 (7.3)	Histology, serum CEA, serum CA 19–9	NR	1 year: 37%, 5 years: 0%	100% recurrence among Cyt+ patients
Kodera, 1999 [2]	91	10 (11.0)	Tumor size, nodal disease, increasing AJCC stage	NR	386 days*	Cyt+ only independent predictor of survival in curatively resected patients
Bentrem, 2005 [1]	371	24 (6.5)	T stage, clinical stage	98.5 months*	14.8 months*	Most significant independent predictor of survival, Risk Ratio = 2.7 for death
Riberio, 2006 [3]	220	15 (6.8)	T stage, clinical stage	61 months#	10.5 months#	All patients with Cyt+ at least pathologic T3, Cyt+ independent risk factor for death; Relative risk = 22

*Median.
#Mean.
NR: not reported.

Laparoscopia diagnóstica en cáncer gástrico: impacto pronóstico Cit (+)

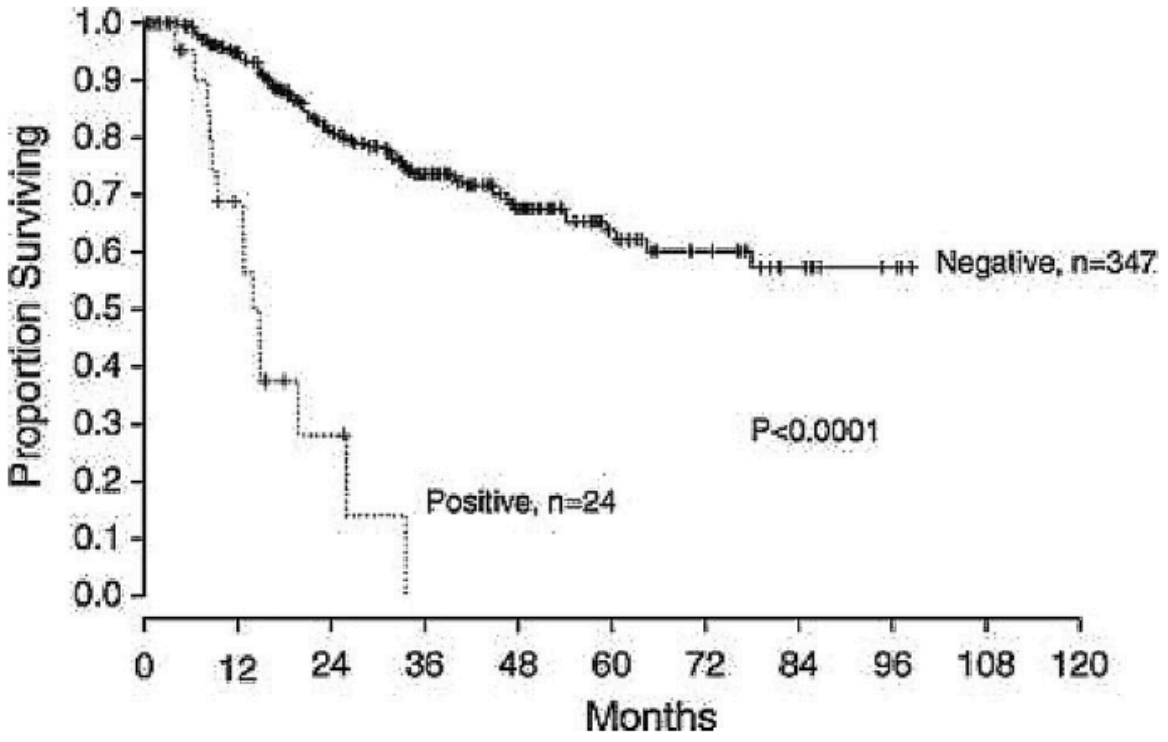

Fig. 1. Prognostic value of positive peritoneal cytology in patients treated with R0 resection. There were no 3-year survivors among the 24 patients with positive cytology following curative gastrectomy.

Laparoscopia diagnóstica en cáncer gástrico: conversión a Cit (-) con QT

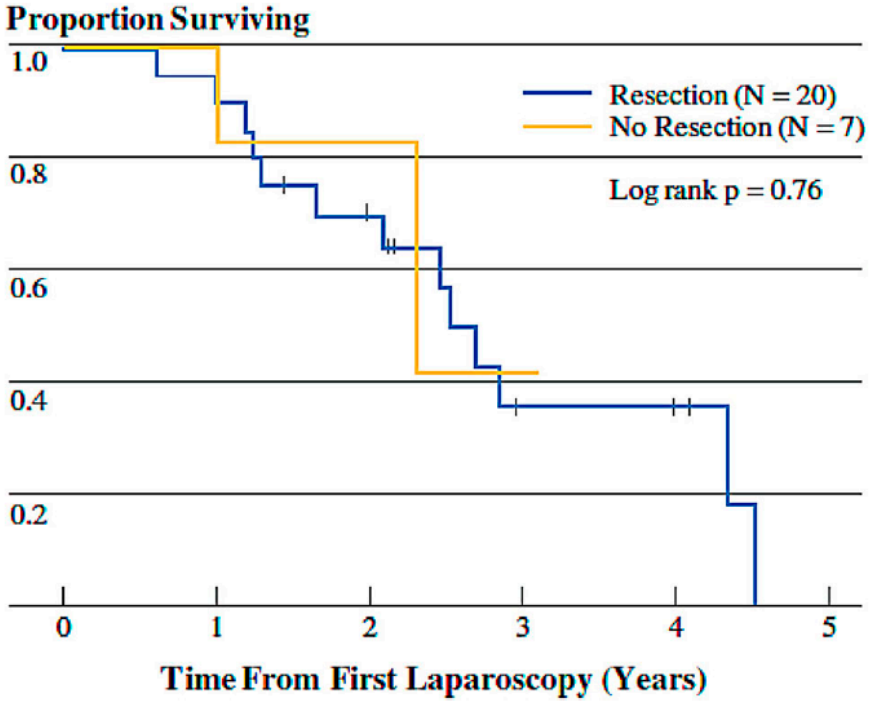

Fig. 2. Outcome of 27 patients with initially positive peritoneal cytology who converted to negative cytology following chemotherapy. Patients selected for gastric resection had similar disease specific survival compared to patients who did not have gastric resection.

Laparoscopia diagnóstica en cáncer gástrico

- Detección de M1 ocultas en TAC – 10-40%
  - Supervivencia media < 1 año

No IQ

- Citología peritoneal (+): 4-10% -> indicador de
  - Enfermedad avanzada
  - Recaída precoz tras resección
  - ↓ DSS
  - Supervivencia media >/= 1 año

Conflicto

Laparoscopia estadiaje en cáncer gástrico: guías clínicas

- **ESMO**: se recomienda Lest +/- citología peritoneal en todos los estadios IB-III potencialmente resecables
- **NCCN**:
  - LEst + citología indicada cuando se consideran QT/RT o cirugía
  - No indicada en resecciones paliativas
  - Indicada para todos los estadios IB o superiores

Citología peritoneal (+): soluciones

- Cirugía radical peritoneal + HIPEC
  - Mejora supervivencia media
- Lavado intensivo con SSF (Kuramoto, Ann Surg 2009)

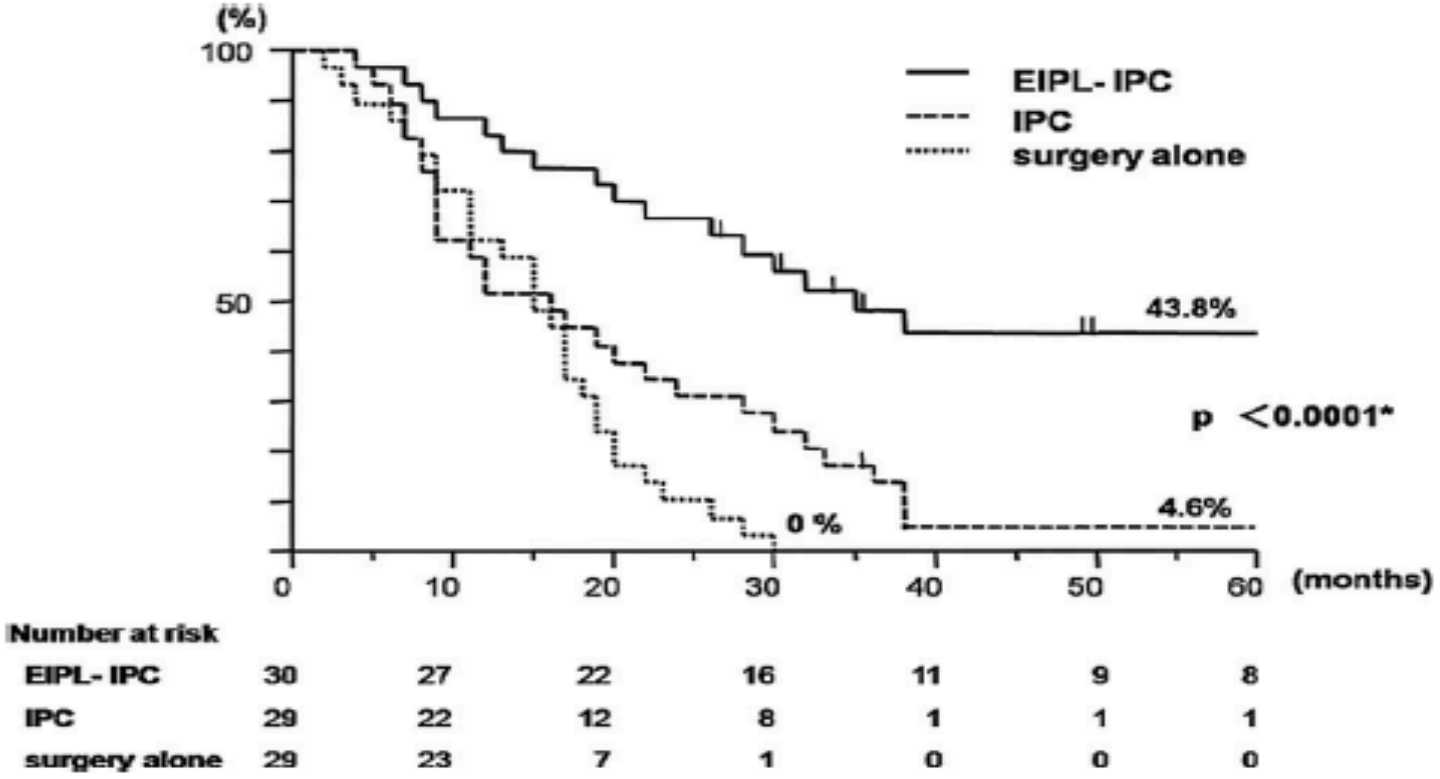

Fig. 3. Survival results from a prospective randomized trial of extensive intra-operative peritoneal lavage in patients with positive cytology. Patients were randomized to extensive intra-operative peritoneal lavage followed by intra-peritoneal chemotherapy (EIPL-IPC), intra-peritoneal chemotherapy (IPC), or surgery alone. Patients treated with lavage had a significant improvement in survival compared to either chemotherapy or surgery alone. Reproduced with permission [17].

Satoh S et al.:Gastric Cancer 2012;15:61–69.

Laparoscopia diagnóstica en cáncer de páncreas

- En cáncer de páncreas resecable según estudio preop, **20-30%** se demuestran inoperables en laparotomía con intención resectiva
- El porcentaje es **> 40%** en los casos considerados localmente avanzados - tto neoadyuvante

Laparoscopia de estadiaje

Laparoscopia diagnóstica en cáncer de páncreas: ventajas potenciales

- ↓ nº de laparotomías innecesarias
- Evitar neoadyuvancia innecesaria (M1)
- ↓ estancia hospitalaria
- ↓ costes
- ↓ intervalo a inicio de QT

Algunos autores recomiendan su uso rutinario

The Role of Diagnostic Laparoscopy in Detecting Minimal Peritoneal Metastatic Deposits in Patients With Pancreatic Cancer Scheduled for Curative Resection

Ron Lavy, MD, Inbar Gatot, MD,* Ilya Markon, MD,* Zahar Shapira, MD,* Bar Chikman, MD,* Laurian Copel, MD,† and Ariel Halevy, MD**

Background: Pancreatic cancer (PC) is an aggressive disease usually diagnosed at an advanced stage. Modern computed tomography can define the subgroup of operable patients. However, minimal peritoneal deposits can be undetected even by modern computed tomography protocols.

Aim: To diagnose those patients who are not operable because of a peritoneal spread using diagnostic laparoscopy (DL), thus avoiding unnecessary laparotomies.

Methods: A retrospective study was conducted on 52 consecutive patients with PC scheduled for curative pancreatic surgery.

Results: Out of 52 patients who underwent DL, peritoneal spread was diagnosed in 5 patients and these patients were denied surgery. Laparoscopy did not detect 2 other patients with peritoneal spread.

Conclusions: Although the added value of DL in patients with PC is small (around 10% in our series), considering the minimal morbidity and costs attributed to this procedure, we believe that it should be adopted as a routine approach.

deposits not detected by CT, we decided to perform diagnostic laparoscopy (DL) on each patient before embarking on laparotomy.

PATIENTS AND METHODS

This is a retrospective study approved by the Institutional Review Board of our Medical Center. Data were obtained from our database from the years 2006 to 2010 and the study was performed in a teaching academic setup.

All the preoperative imaging studies were performed not >2 weeks before surgery. Endoscopic ultrasound (EUS) for tissue diagnosis was performed only in cases where the CT and tumor markers (CA19-9 and CEA) were inconclusive. The CT protocol (pancreatic protocol) that we used was performed with a 256-channel or 64-channel multidetector CT Philips scanner. The examination consisted of a 3-phase scan with water intake or diluted contrast material and included a noncontrast scan of the abdomen followed by

identifies unresectable pancreatic adenocarcinoma; therefore, all patients with potentially resectable disease should undergo staging laparoscopy.

J. Surg. Oncol. 2009;100:663–669.

Laparoscopia diagnóstica en cáncer de páncreas: ¿justificada?

- Fallo en detección de metástasis en 7-35%
- La mejora en resultados de TAC reduce los beneficios de su aplicación a 3-14%
- M1 no son la única causa de irresecabilidad -> LEst limitada para evaluación vascular
- Se discute que ↓ costes e intervalo a QT
- No está exenta de complicaciones

Laparoscopia diagnóstica en cáncer de páncreas

- El dilema no está resuelto
- Enfoque selectivo:

Selective Use of Staging Laparoscopy Based on Carbohydrate Antigen 19-9 Level and Tumor Size in Patients With Radiographically Defined Potentially or Borderline Resectable Pancreatic Cancer

Sohei Satoi, MD, Hiroaki Yanagimoto, MD,* Hideyoshi Toyokawa, MD,* Kentaro Inoue, MD,* Keita Wada, MD,† Tomohisa Yamamoto, MD,* Satoshi Hirooka, MD,* So Yamaki, MD,* Rintaro Yui, MD,* Hynek Mergental, MD,* and A-Hon Kwon, MD**

Objective: The aims of this study were to verify whether the selective use of staging laparoscopy can prevent unnecessary laparotomy and to find a surrogate marker for surgical unresectability in patients with potentially or borderline resectable pancreatic cancer.

Methods: Group A consisted of consecutive 33 patients evaluated between 2005 and 2006 and who directly underwent open laparotomy for planned surgical resection. Group B consisted of consecutive 61 patients evaluated between 2007 and 2009 and of whom 16 patients (26%) had a staging laparoscopy due to the presence of high-risk markers of unresectability defined as carbohydrate antigen 19-9 level 150 U/mL or greater and tumor size 30 mm or greater.

Results: The frequency of unnecessary laparotomies for occult distant organ metastasis was significantly different between groups A and B

only 15% to 20% of patients have a potentially resectable disease without evidence of a major vessel involvement or extrapancreatic spread of the tumor.[8,9] Despite the advances and resolution improvement of imaging technologies,[10] noninvasive staging modalities are still limited in their ability to identify accurately metastatic disease of small volume. Even multidetector-row computed tomography (MDCT) cannot accurately detect liver and peritoneal metastases less than 10 mm in diameter or provide qualitative diagnosis of small amounts of ascites, resulting in unnecessary laparotomy and inappropriate patient selection for therapy.

Staging laparoscopy is a minimally invasive procedure that can identify occult distant metastases, resulting in appropriate patient selection for preoperative chemotherapy or chemo-

Laparoscopia estadiaje en ca. de páncreas: guías clínicas

- **ESMO**: uso sugerido en T. resecables o borderline, pero no es globalmente aceptada
- **NCCN**: Se utiliza en algunos centros antes de resección o RT/QT, o selectivamente en pacientes con alto riesgo de enfermedad diseminada:
  - Resección borderline
  - ↑ acusadas de CA 19.9
  - Tumores grandes
  - Ganglios aumentados de tamaño

Páncreas citología (+) – Más…

Autor	Año	Citología +	Conclusiones
Satoi	2014	7%	↓OS ↑% carcinomat post QT ady no mejora
Hirabayasi	2015	18%	F. pronóst. independiente
Aoyama	2015	14,7%	↓Superv a 3 y 5 años, incluso con R0+QT ady
Iwagami	2015	12,8%	F. Pronóst. independiente

Laparoscopia diagnóstica en cáncer de páncreas: conclusiones

- Paralelismo con la historia del tema en cáncer gástrico
- Se precisan soluciones para citología (+) -> ¿HIPEC?
- **Probablemente procede su uso selectivo según CA 19.9, T>3cm, adenopatías, RT/QT**


Muchas gracias