

Fast-track for patients after CRS?



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Fast-track after CRS /HIPEC

Fast-track, ERP, ERAS ...

„... multimodal intervention may reduce stress induced organ dysfunction and the accompanying morbidity ...“

Kehlet Am J Surg 2002

Fast-track after CRS /HIPEC

General aim:

Prevention from general complications

Normalization of organ function

Enable activities of daily living

Improve quality of life

Early discharge

Fast-track after CRS /HIPEC

Fast-track cannot replace a subtle, atraumatic and ambitious surgical technique

Morbidity after CRS /HIPEC

Table 1: Selected studies with CRS and HIPEC in patients with peritoneal carcinomatosis of diff.

Author, year	n	Tumor entity	Cytostatic agent(s)	Morbidity	Mortality	Median
				[%]	[%]	[months]
Verwaal, 2003[25,41]	105	CRC	MMC	35	8	27
Glehen, 2004[33]	506	CRC	MMC/LOHP	23	4	15
Shen, 2004[34]	77	CRC	MMC	30	12	17
Glehen, 2004[29]	49	GC	MMC	27	4	16
Hall, 2004[45]	34	GC	MMC	35	0	14
Yonemura, 2005[30]	105	GC	MMC/DDP	22	3	15
Feldmann, 2003[35]	49	DMPM	DDP	25	0	92
Deraco, 2006[36]	49	DMPM	DDP/DXR DDP/MMC	27	0	5
Yan, 2007[27]	70	DMPM	DDP/DXR	36	3	5
Piso, 2004[37]	19	OC	DDP; MITO	28	5	3
Cotte, 2007[38]	81	OC	DDP	14	3	26
Di Giorgio, 2008[26]	47	OC	DDP	21	4	30

Glockzin WJSO 2009

Definition of Morbidity

NCI CTAE:

Grade 1 Mild	asymptomatic or mild symptoms; clinical or diagnostic observations only; intervention not indicated
Grade 2 Moderate	minimal, local or noninvasive intervention indicated; limiting age-appropriate instrumental ADL
Grade 3	Severe or medically significant but not immediately life-threatening; hospitalization or prolongation of hospitalization indicated; disabling; limiting self care ADL
Grade 4	Life-threatening consequences; urgent intervention indicated
Grade 5	Death related to AE

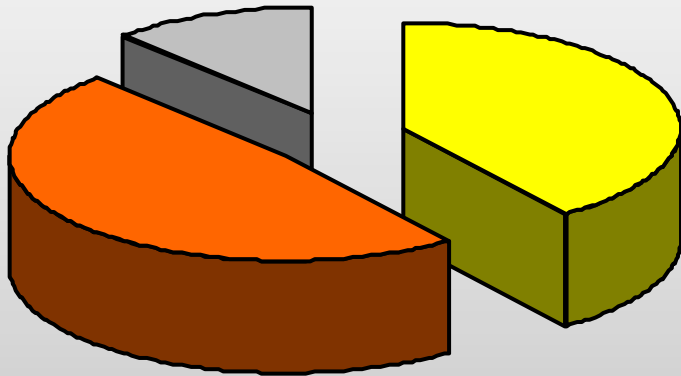
<http://evs.nci.nih.gov/ftp1/CTCAE>

General Morbidity

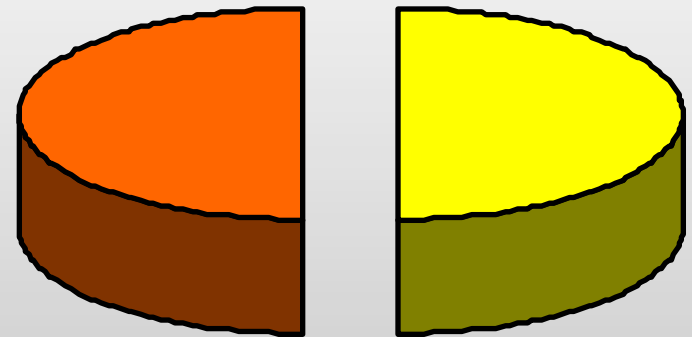
N=80, Morbidity 72%, Mortality 1%

NCI CTCAE

Morbidity Grade III
N=36 (45%)



Morbidity Grade IV
N=6 (8%)



■ General

■ Surgical

□ unclear

Yan JSO 2007

**Enhanced recovery
Preventing organ failure
Less general complications**

Preservation homeostasis / Restore patients' autonomy

Information / guidance

Optimization of patients' conditions

Optimization of preparation for surgery

Optimization of anesthesia

No drains, tubes, catheters

Optimization of pain relief

Early enteral / oral nutrition

Enhanced mobilization

Best / atraumatic surgical technique

Five key components of successful ERPs

Patient information

Preservation of gastrointestinal function

Minimizing organ dysfunction

Active pain control

Promotion of patients' autonomy



Reduction of general morbidity



Enhanced recovery

Adamina Surgery 2011

Proven effectiveness

Herniotomy
Ostomy closure
Cholecystectomy

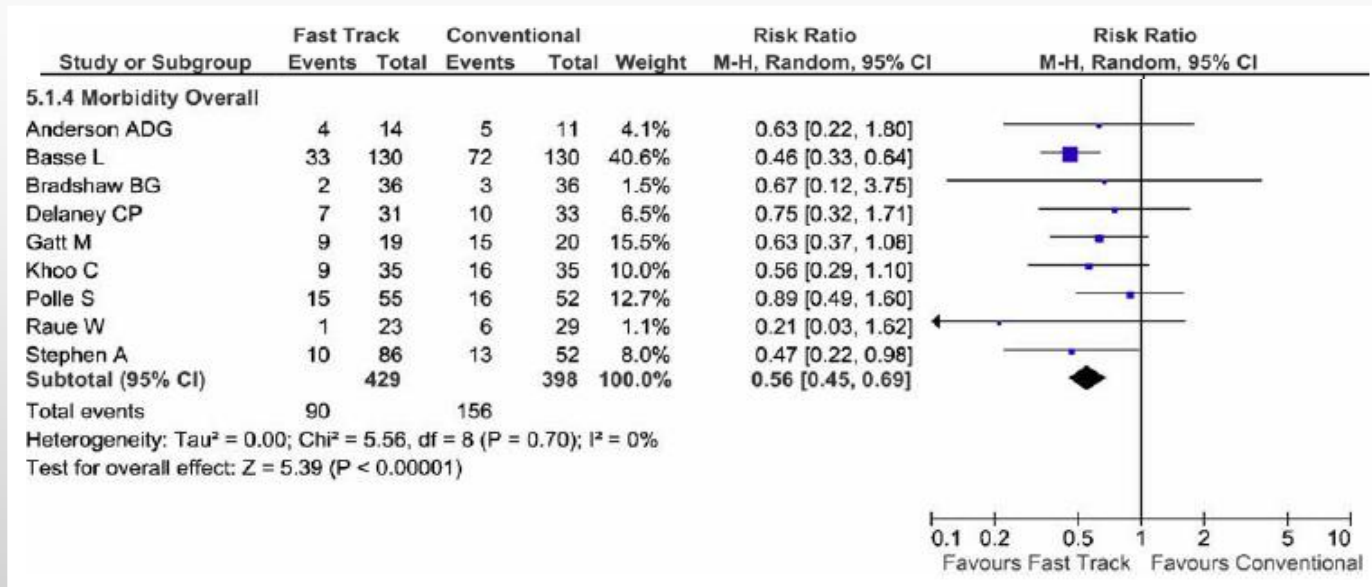
Colonic resection

Pulmonary resection
Gastric resection
Liver resection
Pancreatic resection
Esophageal resection

Major gynecological resection
Prostatectomy

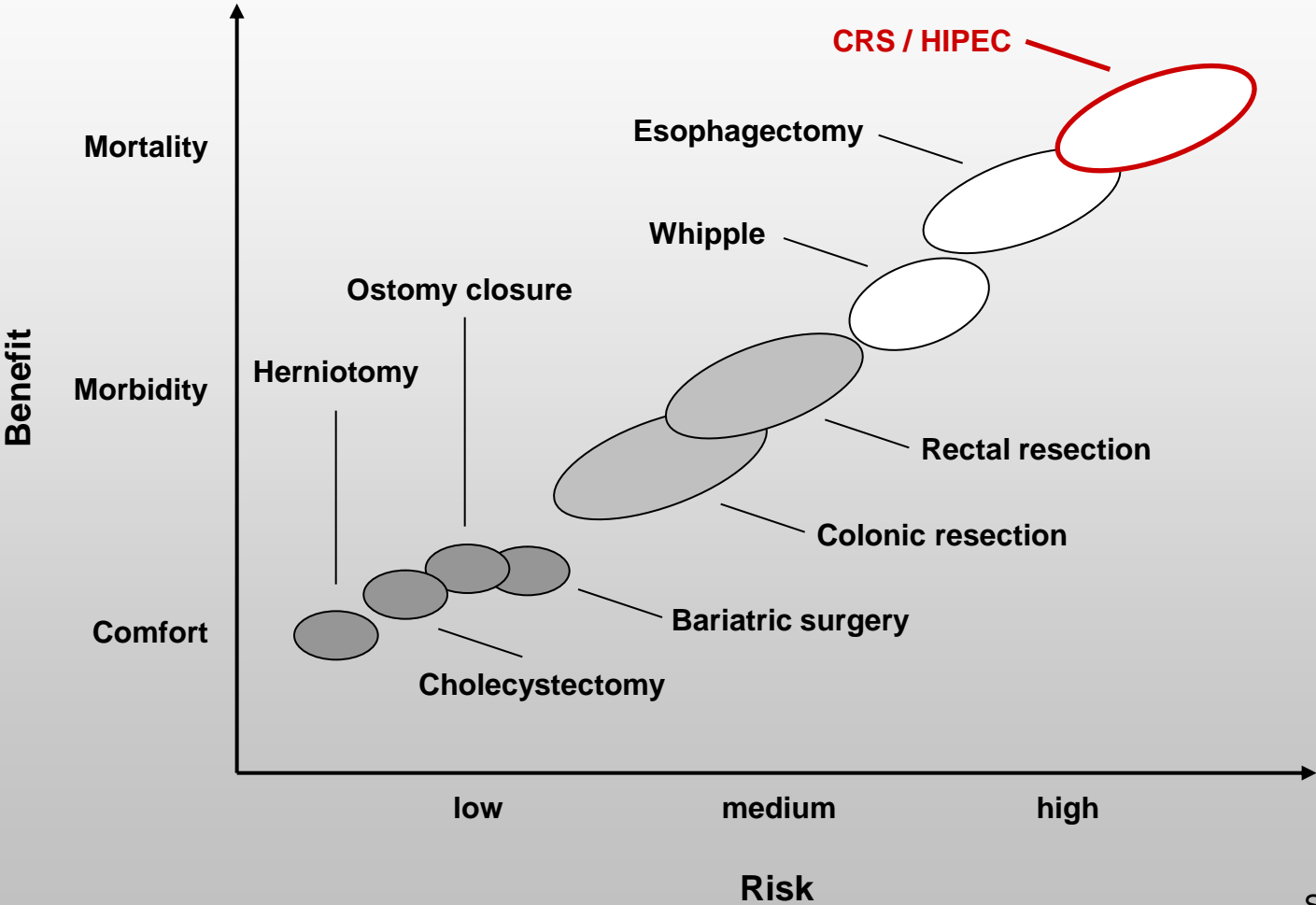
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Fast-track in colorectal surgery



Reduction of overall morbidity from 40 to 20 %

Potential of Fast-track



Schwenk Chirurg 2009

Summary of fast-track items

- Oral and written information of patient about all aspects of perioperative care
- Preoperative feeding in malnourished patients
- Pharmacological prophylaxis of postoperative nausea or vomiting
- Enforced early enteral feeding, liberal use of chewing gum and laxatives
- Avoidance of mechanical bowel preparation
- Goal-directed fluid therapy; minimizing fluid overload
- Opioid-sparing anesthesia and analgesia, including a thoracic epidural with local anesthetic or intravenous patient-controlled analgesia
- Peripheral opioid antagonist, no systemic morphine use
- Preservation of sleep pattern by liberal use of night-time sedative
- Breathing exercises, O₂-application
- Avoidance or early removal of urinary catheter, drains and nasogastric tube
- Active prevention of hypothermia
- Enforced postoperative mobilization

Adamina Surgery 2011
Wind BJS 2006

Fast-track and perioperative management for patients after CRS?

Phase II finished : CRS/HIPEC is feasible, effective and save.

YES

Future RCTs should implement and evaluate Fast-track concepts

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