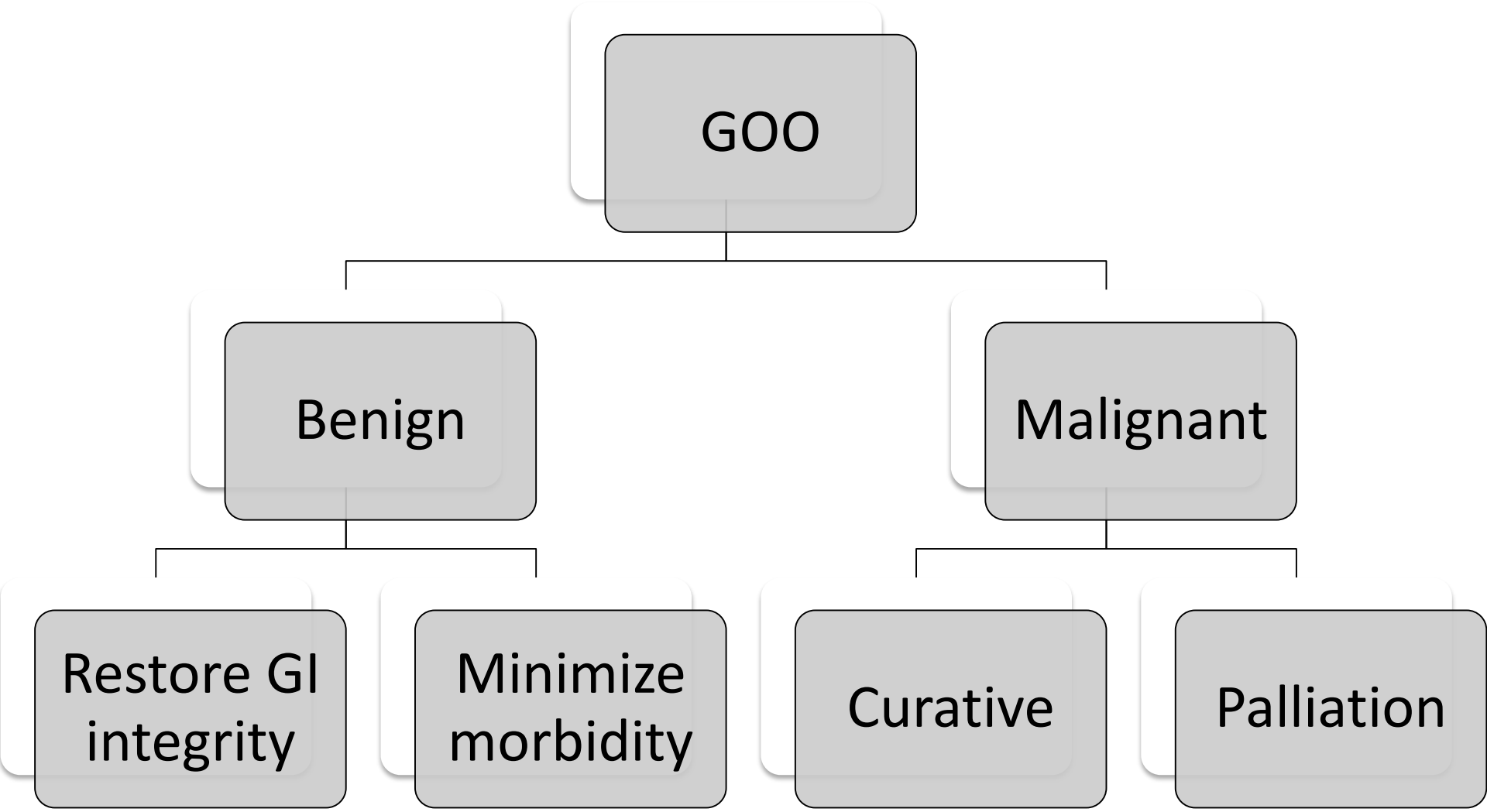
Dilation with/out stent vs Surgery for GOO

DR TK MARUMO

CMJAH/WITS


GOO
Benign
Malignant
Restore GI integrity
Minimize morbidity
Curative
Palliation

MALIGNANT GOO

- Principles of Therapy -Disease control/stabilization

  -Restore GI integrity

  -Improve nutrition

  -Control pain

ROLE OF STENTING IN MALIGNANT GOO

- Palliation
- Salvage Surgery
- Bridge to Surgery

TYPES OF STENTS

- Uncovered SEMS
- Covered SEMS

EVIDENCE

Endoscopic treatment of malignant gastric and duodenal strictures: a prospective, multicenter study

Andrea Tringali, MD, PhD,1 Paul Didden, MD,2 Alessandro Repici, MD,3 Manon Spaander, MD, PhD,2 Michael J. Bourke, MBBS, FRACP,4 Stephen J. Williams, MD, MBBS, FRACP,4 Julius Spicak, MD, PhD,5 Pavel Drastich, MD, PhD,5 Massimiliano Mutignani, MD,1 Vincenzo Perri, MD,1 André Roy, MD, LMCC, CSPQ, FRCSC,6 Krystal Johnston, MD,7 Guido Costamagna, MD, FACG1 Rome, Milan, Italy; Rotterdam, the Netherlands; Sydney, New South Wales, Australia; Prague, Czech Republic; Montreal,Quebec, Canada; West Lafayette, Indiana, USA

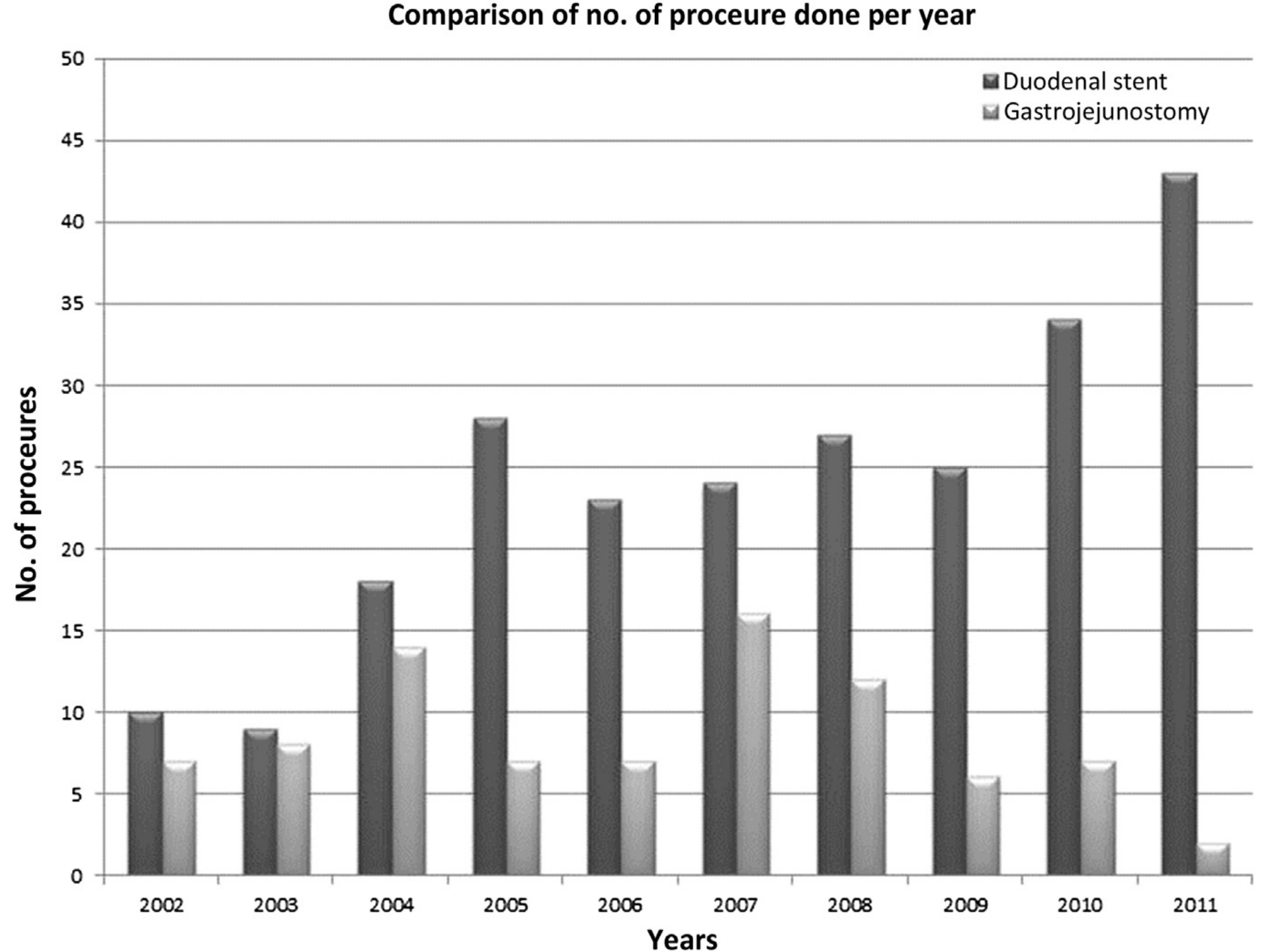
- **Background:** Malignant gastric outlet obstruction is often treated by stent placement.
- **Objective:** To investigate the outcomes of stent placement in the palliative treatment of malignant neoplasms.
- **Design:** Prospective, observational, multicenter registry.
- **Setting:** Six tertiary care centers in 5 countries.
- **Patients:** A total of 108 adult patients with malignant gastric outlet obstruction.
- **Interventions:** Placement of an uncovered, self-expandable, metal duodenal stent.

- **Main Outcome Measurements:** The primary endpoint was stent patency at 14 days after stent implantation.
- Secondary endpoints included stent patency at 1, 2, 3, and 6 months, gastric outlet obstruction scoring system
- **(GOOSS) scores** at 14 days and 1, 2, 3, and 6 months after stent deployment, technical success, adverse events, and patient survival (i.e. confirmed duration of the implant)

- Technical success was achieved in 99.1% of stent placements
- At 14 days, GOOSS scores increased by a median of 1 point

Gastrojejunostomy versus enteral self-expanding metal stent placement in patients with a malignant gastric outlet obstruction

Amanpal Singh,1 William A. Ross,1 Abhik Bhattacharya,1 Lianchun Xiao,2 Alexander A. Dekovich,1 Marta Davila,1 Gottumukkala S. Raju,1 Jeffrey E. Lee,3 Jason B. Fleming,3 Jeffrey H. Lee1,*


Comparison of no. of proceure done per year
Duodenal stent
Gastrojejunostomy
No. of proceures
Years
0
5
10
15
20
25
30
35
40
45
50
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011

RESULTS

Mean Time to Tolerate Feeds	SEMS2.2% VS 4.8% GJY
Mean Hospital Stay	GJY 17.5 vs SEMS 12.3
Complications Rates	GJY 10.8 vs 4.6 SEMS
Re-intervention Rates	SEMS 14.9 vs 3.2GJY

RESULTS

- Surgical Bypass morbidity 25-35%
- Peri-operative mortality 2%
- Endoscopic stent-less invasive
  - lower complications rates
  - quicker recovery

Surgical gastrojejunostomy or endoscopic stent placement for the palliation of malignant gastric outlet obstruction (SUSTENT study): a multicenter randomized trial

Suzanne M. Jeurnink, Ewout W. Steyerberg, Jeanin E. van Hooft, Casper H. J. van Eijck, MatthijsP. Schwartz, Frank P. Vleggaar, Ernst J. Kuipers, Peter D. Siersema, for the Dutch SUSTENT Study Group Rotterdam, Amsterdam, Amersfoort, Utrecht, The Netherlands

Capsule Summary

What is already known on this topic

- Both surgical gastrojejunostomy (GJJ) and endoscopic stent placement are effective palliative treatments of obstructive symptoms caused by malignant gastric outlet obstruction (GOO).

What this study adds to our knowledge

- In a multicenter, randomized trial of palliative treatment for malignant GOO, stent placement resulted in a more rapid improvement of food intake, shorter hospital stay, and lower costs, but GJJ had better long-term results.

MEDICAL COSTS OF STENT PLACEMNT & GASTROJEJUNOSTOMY

Average cost per patient ($)	GJJ (n = 18)	Stent placement (n = 21)	P value
Initial costs			
Treatment*	1656	2092	<.001
Hospital stay†	9403	4309	<.001
Costs during follow-up			
Intramural care‡	2331	2233	.9
Medical procedures§	716	853	.7
Diagnostic procedures	130	180	.5
Therapeutic procedures	586	673	.7
Extramural care‖	2071	1952	.8
Medication/feeding	359	281	.03¶
Medication for symptoms	186	136	.4
Tube/drink feeding	173	145	.04
Total costs per patient	16,536	11,720	.049¶

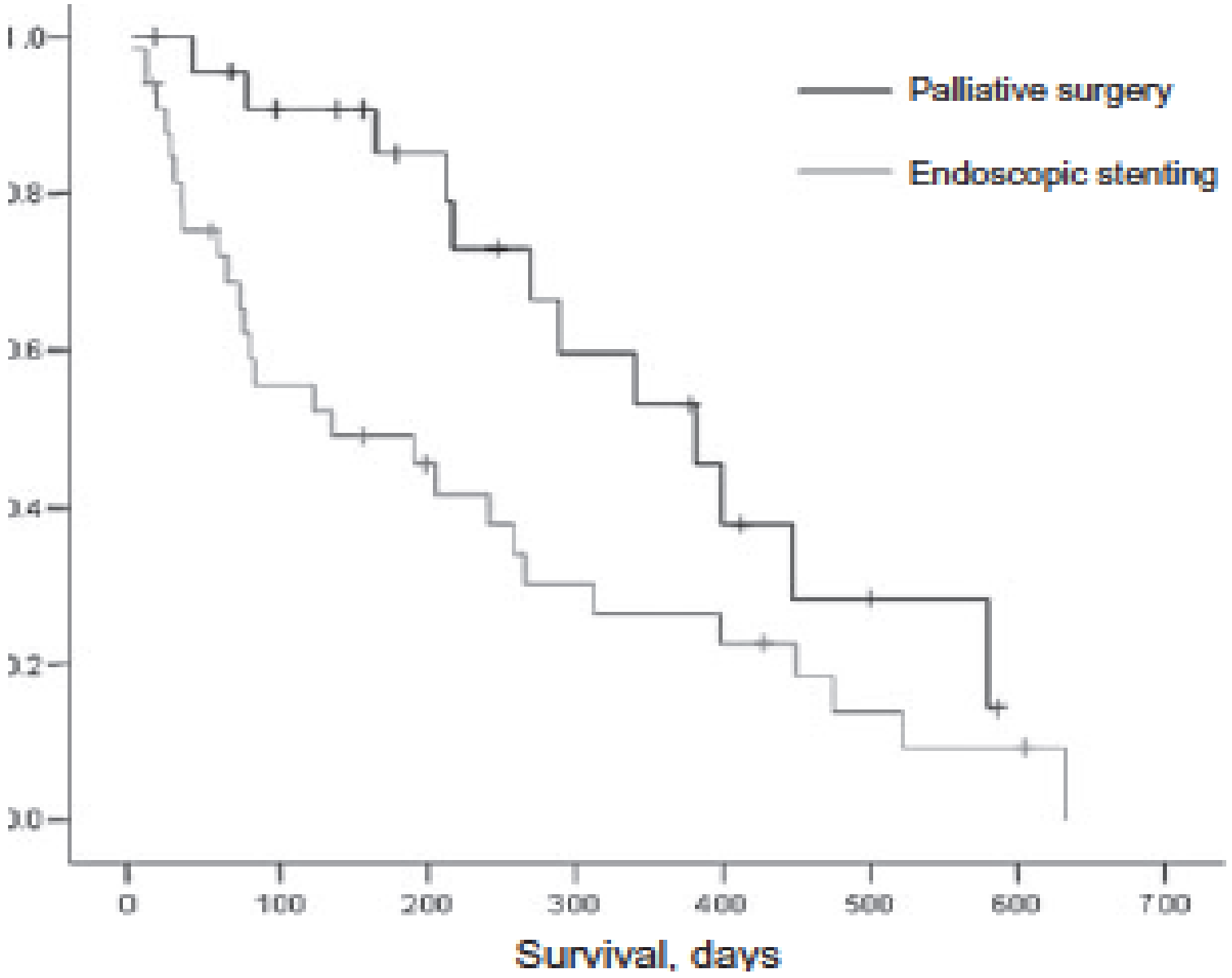
Surgical bypass vs. endoscopic stenting for pancreatic ductal adenocarcinoma

Edwina N. Scott, Giuseppe Garcea, Helena Doucas, Will P. Steward, Ashley R. Dennison & David P. Berry

Department of Hepatobiliary and Pancreatic Surgery, Leicester General Hospital, Leicester, UK

HOSPITAL STAY COMPLICATION & MORTALITY WITHIN 30 DAYS OF PALLIATIVE SURGERY OR ENDOSCOPY

Variable		Palliative surgery group (n = 23)	Endoscopic stent group (n = 33)
Complications	Sepsis	10	7
		43.5%	21.2%
	Bleeding	8	5
		34.9%	15.1%
	Stent blockage	NA	2
			6.1%
30-day mortality		1	6
		4.3%	18.1%


Palliative surgery
Endoscopic stenting
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
600
700
Survival, days

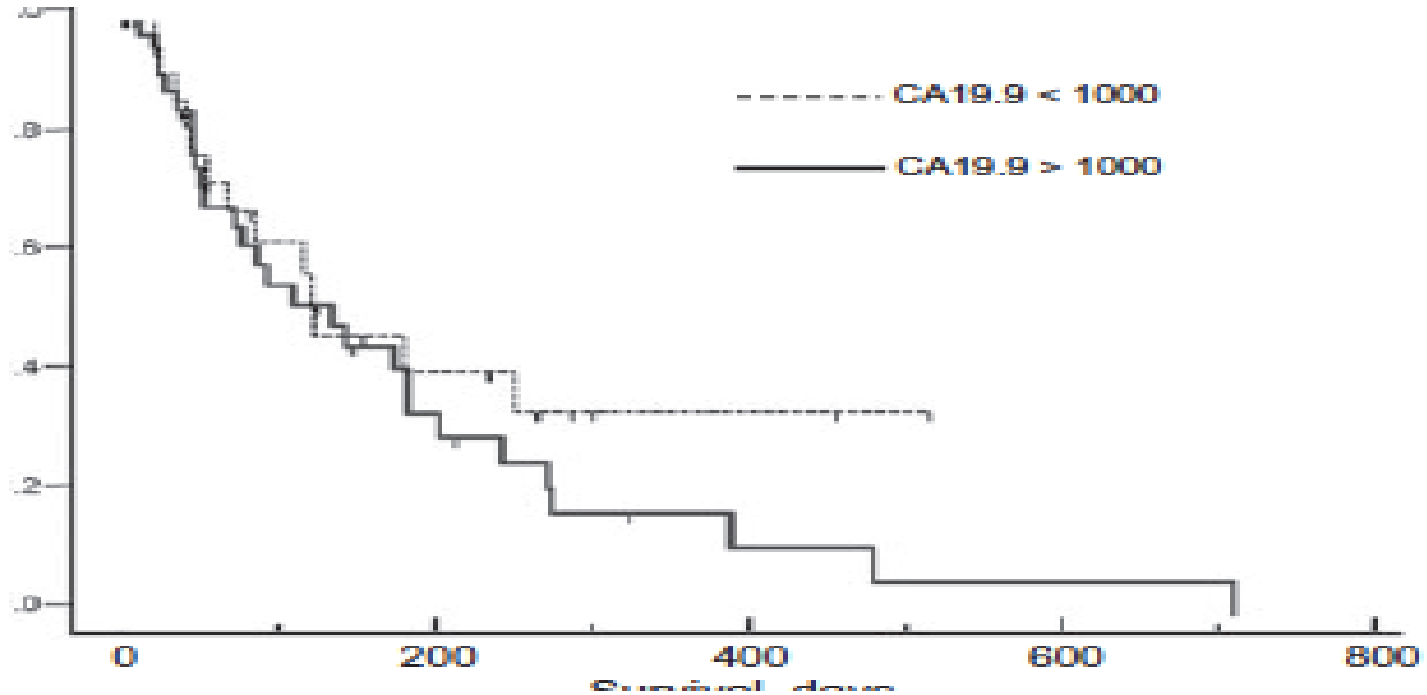

CA19.9 < 1000
CA19.9 > 1000
.8
.6
.4
.2
.0
0
200
400
600
800

Table 1 Demographic variables among patients undergoing endoscopic stenting and palliative surgery

Variable	Palliative surgery group (n = 23)	Endoscopic stent group (n = 33)
Gender		
Male	57%	49%
Female	43%	51%
Median age, years	65.2	69.0
Median CA19.9, kU/l	1153.00	3878.50
Median bilirubin, kU/l	189	290
Median white cell count, $\times 10^9$/l	8.00	8.00
Median C-reactive protein, mg/l	19.00	31.50
Median tumour size, mm	30.00	32.50

NS, not significant

Conclusions: On analysis of these data and the published literature, we conclude that surgical bypass represents an effective method of palliation for patients with locally advanced pancreatic cancer. Patients need to be carefully selected with regard to both operative risk and perceived overall survival.

“The survival of patients who underwent bypass may also be *influenced by our unit’s relatively conservative policy regarding the selection of patients for pancreatic adenocarcinoma resection and the fact that no patients with distant pancreatic metastases in the study.*”

DILATION FOR BENIGN GOO

Endoscopic balloon dilation for benign gastric outlet obstruction with or without Helicobacter pylori infection

Yuk-hoi Lam, MD, James Yun-wong Lau, MD, Terence Ming-kit Fung, MD, Enders Kweok-wai Ng, MD, Simon Kin-hung Wong, MD, Joseph Jao-yiu Sung, MD, Sydney Sheung-chee Chung, MD

Results: Fifty-one patients (33 men, 18 women; median age 65 years; IQR 44-79 years) were studied; 33 consented to endoscopic balloon dilation.
Symptom resolution occurred in 25 patients
(14 Helicobacter pylori positive, 11 Helicobacter pylori negative).
During a median follow-up of 24
months (IQR 16-40 months), 3 of 14 patients in the Helicobacter pylori positive group and 6 of 11 in
the Helicobacter pylori negative group developed further ulcer complications ($p = 0.039$).

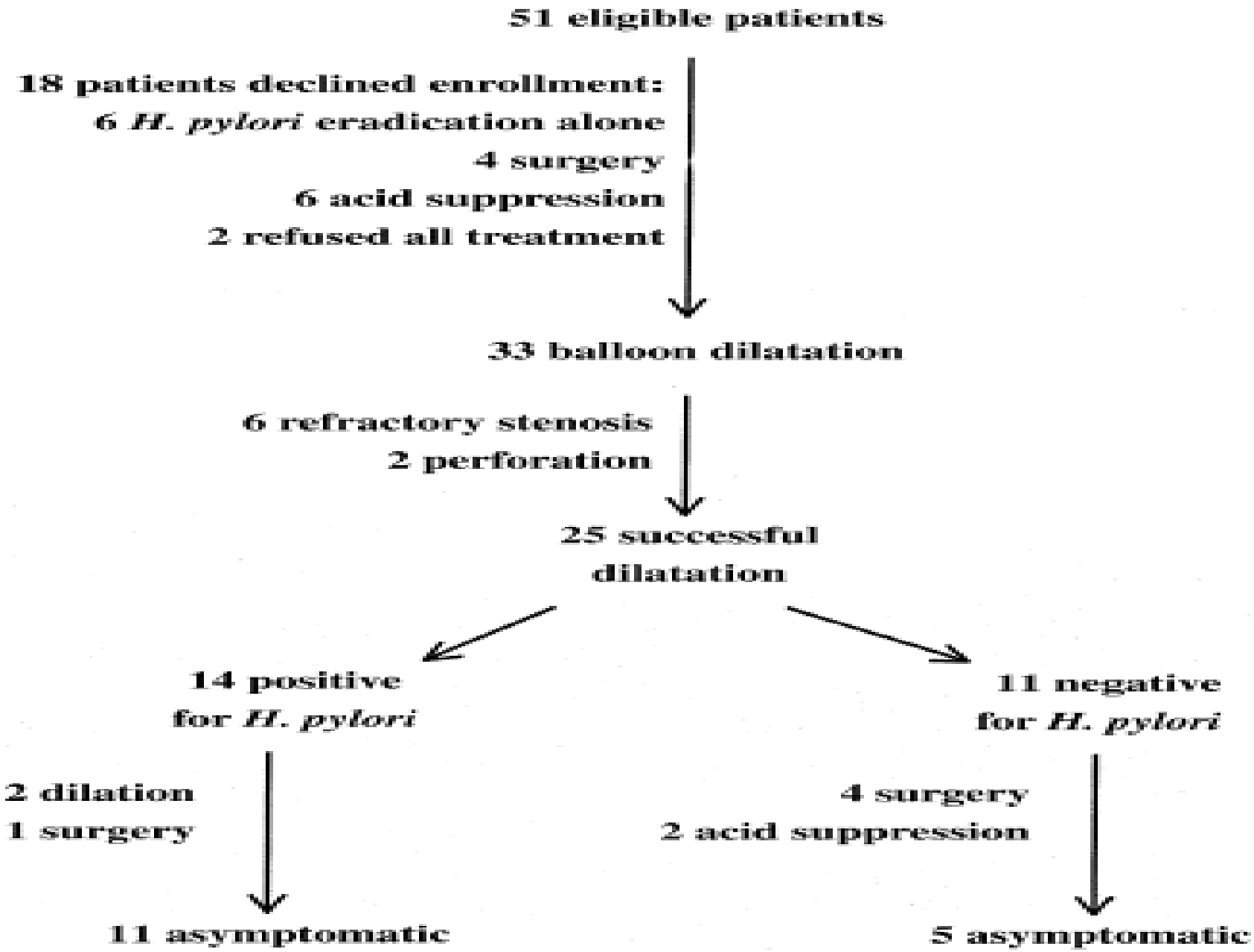
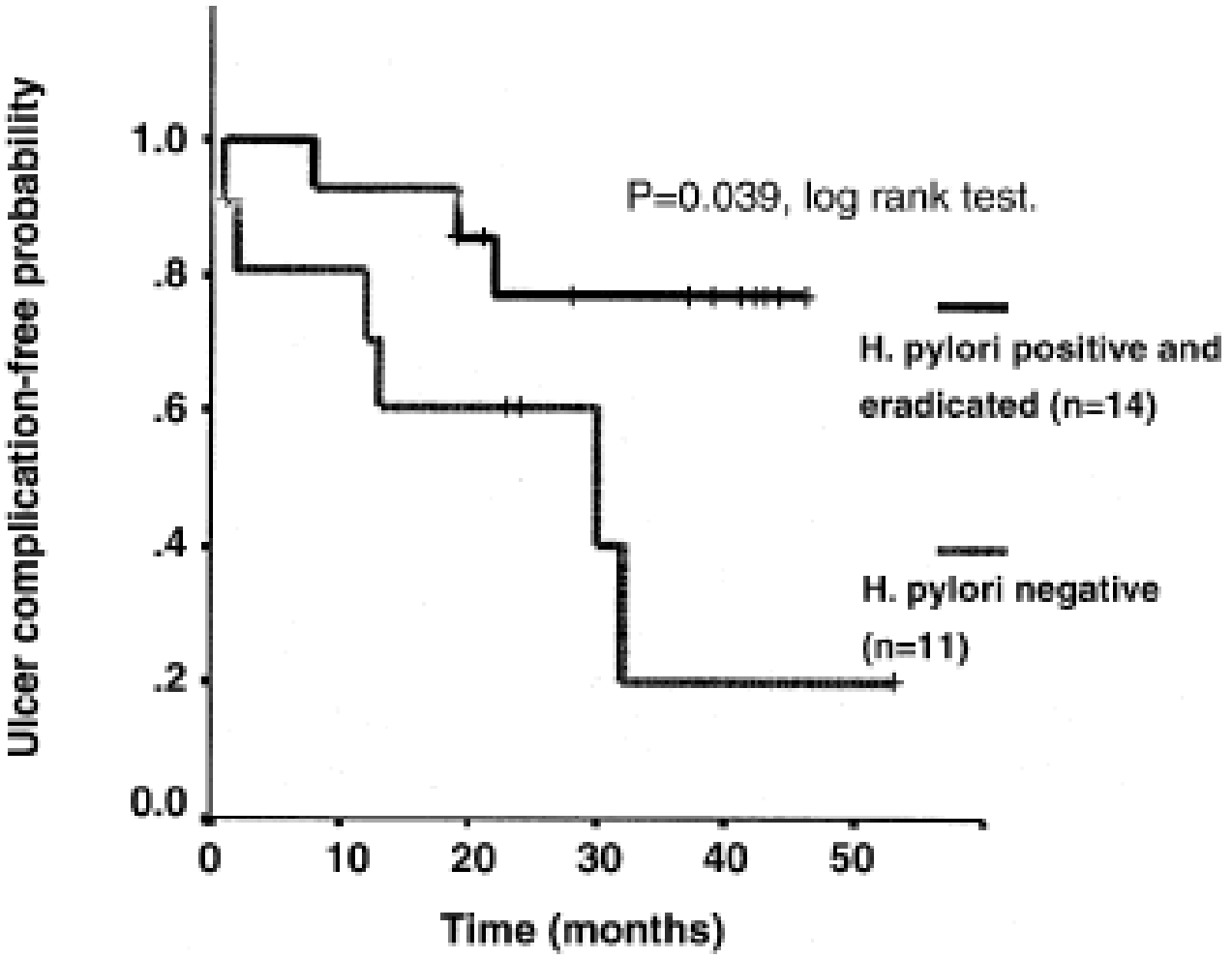


Figure 1. Trial profile of 51 patients with clinical manifestation of gastric outlet obstruction.



No. of patients at risk	14	13	11	8	5	0	H. pylori eradicated
	11	8	6	2	1	1	H. pylori negative

Conclusions: After endoscopic dilation for gastric outlet obstruction, eradication of Helicobacter pylori infection is associated with fewer ulcer complications. (Gastrointest Endosc 2004;60:229-33.)

Balloon dilatation in patients with gastric outlet obstruction related to peptic ulcer disease

Lamine Hamzaoui[a,*], Mahdi Bouassida[b], Imed Ben Mansour[a], Mouna Medhioub[a], Heykal Ezzine[a], Hassen Touinsi[b], Mohamed M. Azouz[a]

[a] *Gastroenterology Department, Mohamed Tahar Maamouri Hospital, Nabeul, Tunisia*
[b] *General Surgery Department, Mohamed Tahar Maamouri Hospital, Nabeul, Tunisia*

- Median follow up time of the 45 patient was 32 month (range, 4-126 months) The immediate success rate of the procedure was 95,5%.
- Clinical remission was noted in 84.4% of the patients .
- Remission without relapse was observed in 55.8%, 30 months after the dilatation.
- Pyloric stenosis relapsed in 15 patients (35.9%) after a median period of 22.9 months.
- The dilatation was complicated in three patients (6.7%, two perforations and one bleeding).
- A total of 13 patients (29%) underwent surgery. H. pylori was found to be positive in 97.7% of patients, and was eradicated in 78.4% of them. Smoking and failure of H. pylori eradication were associated with the relapse of the stenosis.

Capsule Summary

What is already known on this topic

- Endoscopic balloon dilation in gastric outlet obstruction (GOO) related to peptic ulcer disease (PUD) does not achieve long-term remission, and most patients require surgery.

What this study adds to our knowledge

- In 23 consecutive patients with PUD-related GOO, a systematic treatment approach, combining balloon dilation with appropriate antisecretory therapy (AST), identification and confirmed removal of the underlying etiology, and, if needed, adequate maintenance AST based on clinical and endoscopic follow-up resulted in good long-term outcome.

Conclusion: EBD is a simple, effective and safe therapy for the GOO related to PUD, producing short-and long-tern remission.

Etiological spectrum and response to endoscopic balloon dilation in patients with benign gastric outlet obstruction

Rakesh Kochhar, MD,[1] Sarthak Malik, MD,[1] Pankaj Gupta, MD,[1] Yalaka Rami Reddy, MD,[1] Narendra Dhaka, MD,[1] Saroj Kant Sinha, MD,[1] Vikas Gupta, MS,[2] Mohd Talha Noor, MD,[1] Bipadabhanjan Mallick, MD[1]

Chandigarh, India

- **Background and Aims:** Peptic ulcer disease (PUD) related outlet obstruction (GOO) is known to respond favorably to endoscopic balloon dilatation (EBD). However, data on efficacy of EBD for other etiologies of benign GOO are sparse. We aimed to compare the response of EBD among different etiologies of GOO.

- **Methods:** Records of all patients with benign GOO who underwent EBD at our tertiary care center between January 1998 and December 2017 were analyzed. Dilatation was done by using through the scope balloons.

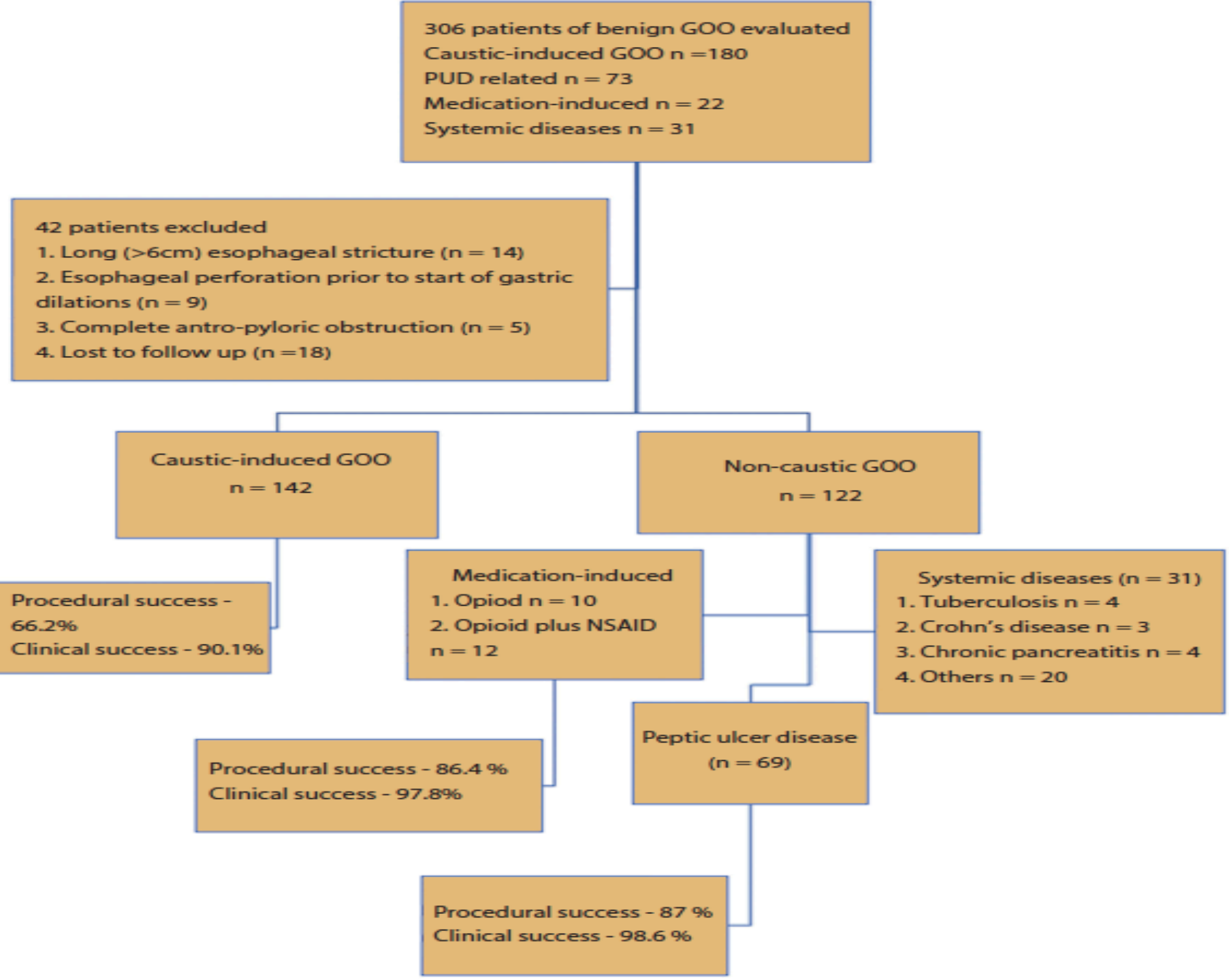
Results: A total of 306 patient were evaluated, of whom 264 (mean +\- standard deviation) [SD] age 37,89 +\- 17.49 years men 183, women 81) underwent dilation.

Biologically, caustic ingestion was the commonest cause of GOO (53.8%) followed by PUD (26.1%) and medication induced (83%).

Overall procedural and clinical success was achieved in 200 (75.7%)and 243 (92.04%) patients, respectively, requiring a mean (+\- SD) of 2.55 (28) and 537 (3.9) sessions, respectively.

Caustic induced GOO responded less favorably, requiring a higher number of dilation sessions and having more refractory strictures than other etiologies.

Medication-induced GOO performed worse than PUD-related GOO. Of the 264 patients, 9 (3.4%) had perforations during EBD, 3 had contained leaks and were managed conservatively, and 6 underwent successful surgery.


306 patients of benign GOO evaluated
Caustic-induced GOO n =180
PUD related n = 73
Medication-induced n = 22
Systemic diseases n = 31
42 patients excluded
1. Long (>6cm) esophageal stricture (n = 14)
2. Esophageal perforation prior to start of gastric dilations (n = 9)
3. Complete antro-pyloric obstruction (n = 5)
4. Lost to follow up (n =18)
Caustic-induced GOO
n = 142
Non-caustic GOO
n = 122
Procedural success - 66.2%
Clinical success - 90.1%
Medication-induced
1. Opiod n = 10
2. Opioid plus NSAID
n = 12
Systemic diseases (n = 31)
1. Tuberculosis n = 4
2. Crohn's disease n = 3
3. Chronic pancreatitis n = 4
4. Others n = 20
Peptic ulcer disease
(n = 69)
Procedural success - 86.4 %
Clinical success - 97.8%
Procedural success - 87 %
Clinical success - 98.6 %

Conclusion: EBD is successful in a majority of patients with benign GOO, with caustic-induced GOO and medication-induced GOO being more difficult than PUD-related GOO

Take home EBD is an acceptable therapeutic intervention, with acceptable morbidity and mortality.