



**Jornada de actualización en Cirugía
19 y 20 de Enero 2017**



**HOSPITAL UNIVERSITARI
GENERAL DE CASTELLÓ**

PRÓTESIS Y CIRUGÍA DIFERIDA

MANEJO DEL CÁNCER DE COLON EN OBSTRUCCIÓN

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SECCIÓN COLOPROCTOLOGÍA
SERVICIO CIRUGÍA GENERAL Y DIGESTIVA HGUCS

+ Introducción



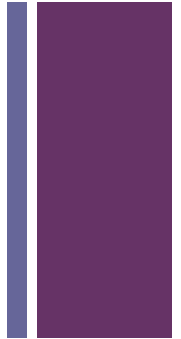
- El **cáncer colorrectal** uno de los más comunes del mundo, sobretodo en países desarrollados.
- **10-30%** de cánceres colorrectales se presentan como obstrucción total (**70%** colon izquierdo) con supervivencia a 5 años del 10-20%.
- Tradicionalmente se indicaba cirugía urgente → (10-20% de supervivencia a 5 años en obstrucción primaria).
 - Impacto negativo calidad vida
 - En ocasiones no se reconstruye el tránsito
- La **cirugía urgente** asociada a **morbilidad (45-50%) y mortalidad elevadas (15-20%)** en comparación con la cirugía electiva (0,9-6%).

Distensión colónica masiva

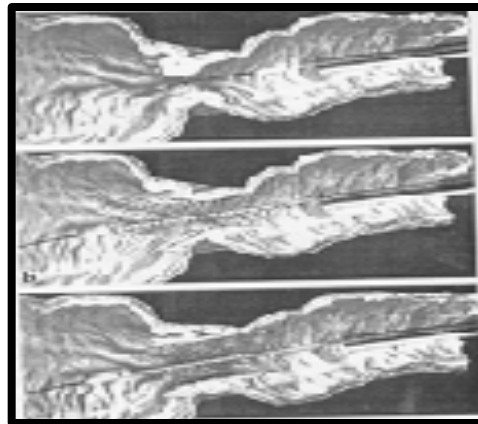
↓
Necrosis y perforación por friabilidad mucosa

↓
Descompresión urgente

+ Introducción

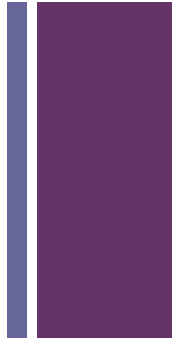


- En **1991-DOHMOTO**- introducción prótesis mecánicas autoexpandibles.
- Finalidad de evitar cirugía urgente y reducir la morbilidad relacionada.
- Implicaciones económicas de reducción de costes.





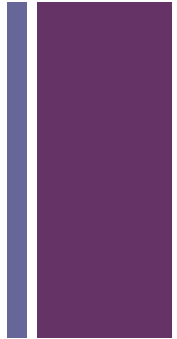
Diseño de las endoprótesis colón



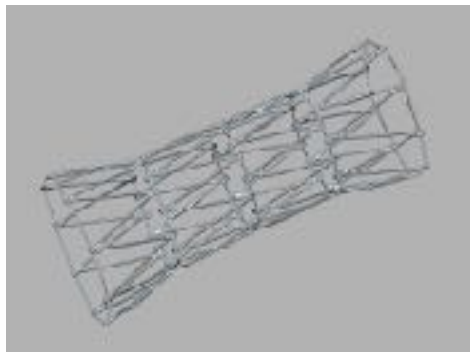
- Características generales:
 - Buena capacidad de expansión (**autoexpandibles**).
 - Gran **flexibilidad**.
 - Diámetro >24mm y longitud >2cm por cada lado de la lesión (40 y 100mm).
 - Estabilidad mecánica.
 - Forma cilíndrica con fuerza expansible radial adecuada (**dumb-bell shape** “forma de campana muda”).
 - **Prevención de reestenosis** por crecimiento tumoral.
 - No interfiera en **pruebas de imagen** para estadificación tumoral.



Diseño de las endoprótesis colón



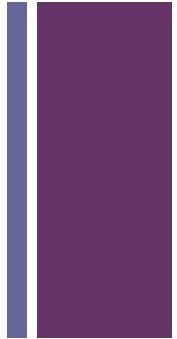
- SEMS (self-expanding metal stents) (NO cubiertas)
- ACERO INOXIDABLE
 - Más rígidas.
 - Afectan calidad imagen RMN.



Colonic Z-Stent
(Cook Medical, US)
•Diámetro 25-35mm,
longitud 4-12cm.
•Cubierta/no
cubierta.



Diseño de las endoprótesis colón



- **ELGILOY** (aleación cobalto con cromo y níquel)
 - Buena elasticidad y flexibilidad.
 - **No** afectan la calidad de la imagen de la RMN.

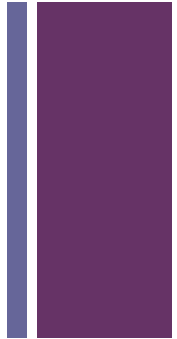


Wallstent (Boston Scientific, US)

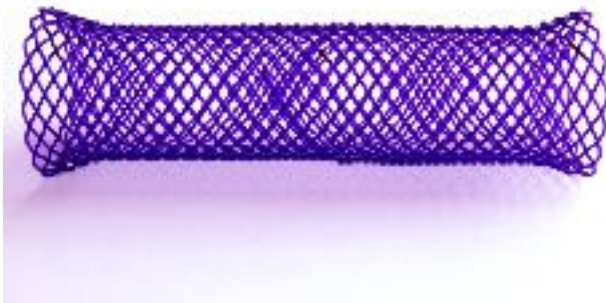
- Diámetro 18-22mm, longitud 6-9cm.
- La más utilizada.
- Terminación alambres finos.



Diseño de las endoprótesis colón



- **NITINOL** (aleación de níquel y titanio)
 - Superelasticidad, **las más flexibles**.
 - Peor visibilidad fluoroscópica (se añaden marcadores radioopacos: plata, oro).



Sx-Ella (Enterella)

- Diámetro 22-30mm, longitud 82-136mm.
- Extremos atraumáticos.
- Marcadores radioopacos en ambos extremos y en el punto medio del stent.
- Lazada de plástico para reposicionamiento en los primeros 5 días.
- Posibilidad recubrimiento.



Kaplan J *et al.* Stents for colon obstruction

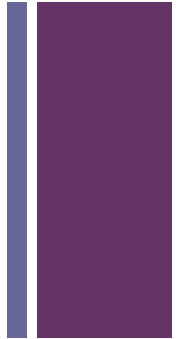
Table 1 Commercially available self-expandable metal stent for malignant colonic obstruction

Manufacturer model	Delivery system	Diameter (mm)	Flares/flanges	Length (mm)	Covered/uncovered
WallFlex ² (Boston Scientific)	TTS	22/27	Present	60, 90, 120	Uncovered
Ultraflex Precision ¹ (Boston Scientific)	OTW	25/30	Present	57, 67, 117	Uncovered
Wallstent endoprosthesis ¹ (Boston Scientific)	TTS	20, 22; no flare	Absent	60, 90	Uncovered
D-Enteral Colonic Stent (TaeWoong Medical)	TTS/OTW	18, 20, 22, 24, 26	Absent	60, 80, 100, 120, 140, 150	Uncovered
Comvi Colonic Stent (TaeWoong Medical)	TTS/OTW	18, 20, 22, 24, 26, 28	Absent	60, 80, 100, 120	Partially Covered
S-Enteral Colonic Stent (TaeWoong Medical)	TTS/OTW	18, 20, 22, 24, 26, 28	Present	60, 80, 100, 120, 140, 150, 230	Fully and Partially Covered
Evolution Colonic Stent (Cook Endoscopy)	TTS	25	Present	60, 80, 100	Uncovered
Colonic Z-Stent ¹ (Cook Endoscopy)	TTS	25	Present	40, 60, 80, 100, 120	Uncovered
Hanroshent (ELLA Tech)	TTS/OTW	20, 22, 24	Present	60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180	Uncovered, Fully Covered
EntereLa (ELLA-CS)	OTW	22, 25, 30	Absent	75, 82, 85, 90, 112, 113, 123, 135, 136	Uncovered, Covered
EndoChoice (EndoChoice)	TTS	22, 24, 26	Absent	60, 80, 100	Uncovered, Partially Covered
Axistent (Leufen Medical)	TTS/OTW	25, 30	Present	80, 100	Uncovered, Partially Covered
Micro-Tech (MICRO-TECH Europe)	TTS/OTW	20, 25, 30	Present	60, 80, 100, 120	Uncovered, Partially Covered, Fully Covered

¹ Colonic stents available in the United States. TTS: Through-the-scope; OTW: Over-the-wire.



Diseño de las endoprótesis colón



- **CUBIERTAS** (membrana silicona sobre los alambres)
- Total o parcial
- ***Ventajas:***
 - *Menor riesgo crecimiento tumoral sobre stent*
- ***Desventajas:***
 - *Menor poder anclaje*
 - *Mayor riesgo migración*

- **NO CUBIERTAS**
- ***Ventajas:***
 - *Menor riesgo migración*
 - *Mejora tasa de éxito de colonoscopias post-stent para toma de biopsias y/o evaluación tumores sincrónicos*
- ***Desventajas:***
 - *Mayor riesgo crecimiento tumoral intra-stent*

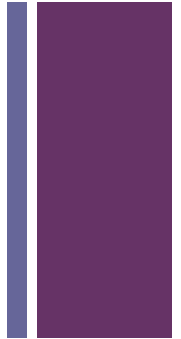


Diseño de las endoprótesis colón



- NOVEDADES
 - **BIODEGRADABLES**
 - Descrito para lesiones benignas
 - Uso limitado en TGI bajo
 - **LIBERADORAS FÁRMACOS**
 - Disminuir sobrecrecimiento tumoral

+ Abordaje técnico



- **GUÍA FLUOROSCÓPICA** (Rx intervencionista)
 - Mayor radiación.
 - Menor coste.

- **GUÍA ENDOSCÓPICA** (Servicio Medicina Digestiva)
 - Menor radiación.
 - Mayor coste.
 - Requiere sedación.
 - Permite toma BIOPSIAS.

- **COMBINADO** (de elección)

+ Abordaje técnico



- Se recomienda administración **ENEMA RECTAL** previa colocación.
- **PROFILAXIS ANTIBIÓTICA?**
 - No se recomienda porque el riesgo de fiebre/bacteriemia es muy bajo.
- Estenosis de $> 4\text{cm}$ se asocian a mayores fracasos técnicos y clínicos.

ÉXITO TÉCNICO
(88-100%)

Despliegue satisfactorio del stent en el sitio de obstrucción

ÉXITO CLÍNICO
(80-92%)

Desaparición de la obstrucción tras colocación stent

+ Indicaciones (I)

Obstrucción **colon proximal** no tan grave (poca cantidad de carga fecal)→ se trata de forma **quirúrgica en un solo acto**, sin preparación colónica ni realización de estoma

- **Solución TEMPORAL** de la obstrucción de **colon izquierdo**, si la situación clínica del paciente lo permite, como paso previo a la cirugía, lo que implica:
 - Mejores condiciones generales del paciente.
 - Completar estudio de extensión.
 - Cirugía en un tiempo y anastomosis primaria
 - Algunos estudios tasa éxito 60-85%.
 - Otros estudios aumenta tasa de recidiva local con el uso de varios SEMS **factor de riesgo** de fistula
 - Posibilidad acceso laparoscópico.
 - Menor estancia hospitalaria y menores complicaciones.
 - Menor necesidad ingreso en UCI.

Cirugía laparoscópica vs abierta

- Laparoscópica mayor dificultad técnica pero recuperación PO más rápida y menor morbilidad
- Similares tasas de supervivencia a largo plazo, tasa de recurrencia y tasa de M1

+

“riesgo o

- Mayor recurre
- La mortalidad diferencias en



Self-expandable metal stents for obstructing colonic and extracolonic cancer: European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline

This Guideline is an official statement of the European Society of Gastrointestinal Endoscopy (ESGE). This Guideline was also reviewed and endorsed by the Governing Board of an American Society for Gastrointestinal Endoscopy (ASGE). The Grading of Recommendations Assessment, Development, and Evaluation (GRADE) system was utilized to define the strength of recommendations and the quality of evidence.

Local guidelines represent a consensus of best practice based on the available evidence at the time of preparation. They may not apply in all situations and should be interpreted in the light of specific clinical situations and resource availability. Further research and clinical studies may be needed to clarify aspects of these statements and revision may be necessary as new data appear. Clinical considerations may justify a change of position or addition to these recommendations. ESGE guidelines are intended to be an educational device to promote improvement and may not be considered as providing care to patients. They are not rules and should not be construed as constituting a legal standard of care or as discouraging, obstructing, requiring, or affecting ongoing, any particular practice.

MAIN RECOMMENDATIONS

The following recommendations should only be applied after a thorough diagnostic evaluation including a contrast-enhanced computed tomography (CT) scan.

1. Prophylactic colonic stent placement is not recommended. Colonic stenting should be reserved for patients with distal large-bowel obstruction and imaging evidence of malignant large-bowel obstruction, with a sign of perforation (strong recommendation, low quality evidence).
2. Colonic self-expandable metal stent (SEMS) placement as a bridge to elective surgery is not recommended as a standard treatment of symptomatic left-sided malignant colonic obstruction (strong recommendation, high quality evidence).
3. For patients with pain-free middle- to left-sided colonic cancer, stent placement may be

considered as an alternative to emergency surgery in those who have an increased risk of postoperative mortality. (ie, American Society of Anesthesiologists (ASA) Physical Status 2-III and/or age > 70 years (weak recommendation, low quality evidence)).

2. SEMS placement is recommended as the preferred treatment for palliation of malignant colonic obstruction (strong recommendation, high quality evidence), except in patients treated or considered for resection with antineoplastic drugs (eg, bevacizumab) (strong recommendation, low quality evidence).

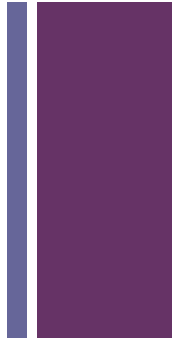
INTRODUCTION

Colorectal cancer is one of the most common cancers worldwide, particularly in the economically developed world.¹ Large bowel obstruction caused by advanced colonic cancer occurs in 33-17% of colonic cancer patients.²⁻⁴ The management of this severe clinical condition remains controversial.⁵ Over the last decade many articles have been published on the subject of colonic stenting for malignant colonic obstruction, including randomized controlled trials (RCTs) and systematic reviews. However, the definitive role of self-expandable metal stents (SEMS) in the treatment of malignant colonic obstruction has not yet been clarified. The evidence and consensus-based clinical guideline has been developed by the European Society of Gastrointestinal Endoscopy (ESGE) and endorsed by the American Society for Gastrointestinal Endoscopy (ASGE) to provide practical guidance regarding the use of SEMS in the treatment of malignant colonic obstruction.

With the exception of one trial,⁶ all published RCTs on colonic stenting for malignant obstruction included rectal cancers, which were usually defined as within 8 or 10 cm of the anal verge, and colonic cancers proximal to the cecum. Bowel stenting is often avoided because of the presumed association with esophageal strictures such as pain, tenesmus, incontinence, and ulcer migration. Even if left colonic obstruction is generally managed with primary surgery, although there are no data to support this assumption because of the aforementioned limitations, unless indicated otherwise the recommendations in this Guideline only apply to left-sided colonic cancer arising from the rectosigmoid colon, sigmoid colon, descending

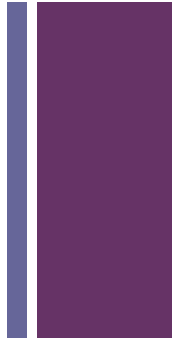
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0014-3082/14/3613-1471
<http://dx.doi.org/10.1053/j.gie.2014.09.018>

+ Indicaciones (I)



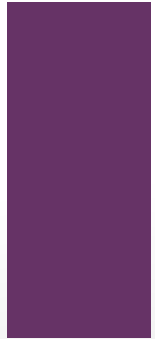
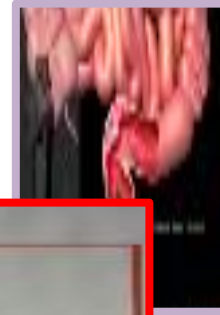
- Intervalo óptimo para la cirugía???
- Se recomiendan **entre 5-10 días**
 - >1 semana
 - *Ventajas:*
 - Recuperación clínica y mejorar estado nutricional.
 - Estudio extensión.
 - Toma de biopsias.
 - *Inconvenientes:*
 - Aumento riesgo complicaciones relacionadas con prótesis.
 - Dificulta la cirugía por mayor infiltración tumoral local y fibrosis.

+ Indicaciones (II)



- **Tratamiento PALIATIVO DEFINITIVO**, en caso de enfermedad avanzada, metastásica o comorbilidad que contraindique la cirugía.
 - **Tasa de supervivencia** comparada con cirugía paliativa → **similar** pero **menor morbimortalidad** con SEMS.
 - **Controvertido** si se va a recibir QT paliativa con **BEVACIZUMAB** (inhibidor angiogénico) → elevado riesgo de **perforación**.
 - Si esperanza de vida > **6 meses** sólo en caso de clínica clara de oclusión intestinal → resultados a largo plazo es tema de debate.
- **Recidiva** a nivel anastomótico que origine obstrucción.
- Compresiones **extrínsecas** (carcinomatosis peritoneal → peores resultados).
- Lesiones **benignas**.

+ Indicación para cirugía diferida (I)



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COMPARATIVE STUDY

Surgical failure after colonic stenting as a bridge to surgery

Jung Ho Kim, Kwang An Gwon, Jong Joon Lee, Won-Suk Lee, Jeong-Hyeon Baik, Yoon-Jae Kim, Jun-Won Chung, Kyung Oh Kim, Dong Kyun Park, Ju Hyun Kim

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Woo-Suk Lee, Jeong-Hyeon Baik, Department of Surgery, Gachon University College of Medicine, Incheon 400700, South Korea

Abstract

AIM: To identify risk factors for surgical failure after colonic stenting as a bridge to surgery in left-sided malignant colonic obstruction.

METHODS: The medical records of patients who underwent colonoscopy for malignant colonic obstruction between February 2004 and August 2012 were retrospectively reviewed. Patients with malignant colonic obstruction had overt clinical symptoms and signs of obstruction. Malignant colonic obstruction was diagnosed by computed tomography and colonoscopy. A total of 181 patients underwent stent insertion during the study period; of these, 68 consecutive patients

were included in our study with stent placement as a bridge to surgery in left-sided malignant colonic obstruction.

RESULTS: Out of 68 patients, 58 (85.3%) were male, and the mean age was 72.5 years. The technical success rate was 91.1% (62/68) and the clinical success rate was 85.3% (58/68) of tumor resection and gross complete resection after successful preoperative stenting. The mean time between the SEMs and surgery was 2.28 mo. The mean delay was 12.5 d before surgery. The use of multiple self-expanding metal stents was a significant independent risk factor for preoperative failure. The use of multiple self-expanding metal stents in target sites was 1.0 cm (1/1), 1.5 cm (2/2), and 2.0 cm (1/1), respectively.

CONCLUSION: The use of multiple self-expanding metal stents appears to be a risk factor for surgical failure.

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Key words: Colorectal neoplasms; Endoscopy; Intestinal obstruction; Risk Factor; Stents

Less frequent self-expanding metal stents (SEMS) is used as a bridge to surgery. The goal is a successful surgical outcome. When surgical results are not good after colonoscopy in patients with malignant colonic obstruction (MCO), many physicians have wondered about the risk factors of surgical failure and wanted to improve their results. Our results show that the use of multiple SEMs was an independent risk factor for surgical failure on multivariate analysis. The identification of this risk factor may help physicians make decisions

Footnote:  WJG | www.wjgnet.com | ISSN 1007-9327 (print); ISSN 2219-2843 (online) | September 7, 2014 | Volume 20 | Issue 35 |

Múltiples SEMs:
Al menos dos stents
en la primera sesión
ó más de dos
sesiones



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PubMed

Advanced

Format: Abstract =

Self-expanding metallic stent as a bridge to surgery versus emergency surgery for obstructive colorectal cancer: a meta-analysis.

Abstract

BACKGROUND: The use of a colonic stent as a bridge to surgery aims to provide patients with elective one-stage surgical resection while reducing stoma creation and postoperative complications. This study used meta-analytic techniques to compare the outcomes of stent use as a bridge to surgery and emergency surgery in the management of obstructive colorectal cancer.

METHODS: Literature search of Medline, Embase, Cochrane controlled trials registry and the Chinese Biomedical Literature Database was performed on all studies comparing stent as a bridge to surgery and emergency surgery to obstructive colorectal cancer. A meta-analysis of the included studies was carried out to identify the differences in outcomes between the two procedures.

RESULTS: Eight studies matched the criteria for inclusion and reported on the outcomes of 601 patients, of whom 232 (38.6%) underwent stent insertion and 369 (61.4%) underwent emergency surgery. Fewer patients in the stent group needed intensive care (risk ratio [RR], 0.42; 95% confidence interval [CI], 0.18-0.97; $p = 0.04$) and stoma creation (RR, 0.37; 95% CI, 0.50-0.92; $p = 0.04$). The primary anastomosis rate in the stent group was higher (RR, 1.55; 95% CI, 1.21-2.18; $p = 0.001$). Overall complications (RR, 0.42; 95% CI, 0.24-0.75; $p = 0.001$), stoma creation (RR, 0.37; 95% CI, 0.50-0.92; $p = 0.04$), and need for intensive care (RR, 0.42; 95% CI, 0.24-0.75; $p = 0.001$) were lower in the stent group. Stent placement before elective surgery did not adversely affect mortality and long-term survival.

CONCLUSIONS: The use of a stent as a bridge to surgery for obstructive left-sided colorectal cancer could increase the chance of primary anastomosis and reduce the need for intensive care, postoperative complications, stent insertion before subsequent surgery, and need for intensive care, postoperative complications, stent insertion before subsequent surgery, and need for intensive care and reduce the need for intensive care, postoperative complications, stent insertion before subsequent surgery, and need for intensive care and reduce the need for intensive care, postoperative complications, stent insertion before subsequent surgery, and need for intensive care.

PMID: 2178642 DOI: 10.1185/095457941001854888

Publication Type: Meta-Analysis

MeSH Terms

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Retrospective Study

Colorectal stenting for palliation and as a bridge to surgery: A 5-year follow-up study

Behl Bayraktar, Ibrahim Ay Gonen, Unlut Kefeli, Gökhan Demirel, Jalil Sagiroglu, Omer Bayraktar, Cüneyt Aşık, Alp Cücelik, Osman Bener (Turkey)

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Author contributions: All authors contributed equally in performing the literature search and conducting the study. Unlut Kefeli had the main role in manuscript writing.

Conflict of interest statement: The authors have no conflict of interest.

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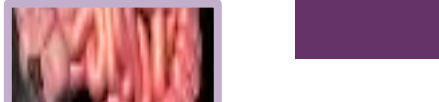
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Abstract

AIM: To evaluate the long-term effectiveness of colorectal stents in colorectal tumors causing large bowel obstruction.

METHODS: We retrospectively analyzed data from 46 patients with colorectal cancer who had undergone colorectal stent placement between January 2008 and January 2013. Patients' symptoms, clinical course and clinical/radiological data were obtained by reviewing medical records. The obstruction was diagnosed clinically and radiologically. Histopathological findings were reviewed independently. Technical success rate (%) was



Bayraktar B et al. Colorectal stenting for palliation and as a bridge to surgery

was defined as the ratio of patients with correctly placed stents upon stent deployment across the entire stricture length to total number of patients. Clinical success rate (CSR) was defined as the ratio of patients with technical success and successful maintenance of stent function before elective surgery (irrespective of number of SPMS deployed) to total number of patients. The surgical success rate (SSR) of patients event as a bridge to surgery was defined as the ratio of patients with successful surgical procedures. Unsuccessful surgical outcomes were defined as being due to insufficient colonic decompression. The technical, clinical, surgical success rates and complications after stenting were assessed.

RESULTS: The median age of patients was 64 (35 to 85), 44.7% of patients were male and 55.3% were female. Eighty-two patients had the obstruction located in the rectum, 15 patients in the sigmoid region, 12 patients in the sigmoid region, and 3 patients had a 500-cm colonic obstruction in the proximal colon. Each patient was categorized pathologically as stage 2 (32.2%), 16 patients) or stage 1 (41.5%), 21 patients) and 12 patients (26.4%) had metastatic disease. None of the patients received chemotherapy before stenting. Stenting was undertaken in 37 patients as a bridge to surgery, and in 12 patients there were sent for palliation. Post-operative to surgery after stenting was 31 + 10.3 d. All surgery was performed in one stage operation and thus no patients with stents was needed. The median event-free survival rate of patients with stage 2 colorectal cancer was 53.1 mo and stage 1 was 50.1 mo (P = 0.04). Metastatic colorectal patients who were treated palliatively with stents had better time to relapse with colic pain and/or intractable bowel obstruction plus urgent hospitalization, especially hospitalization. Resolution of the obstruction in colorectal cancer patients was achieved in 33 (71.7%). The technical, clinical and surgical success rates were 55.3%, 58.7% and 54.3%, respectively.

CONCLUSION: The efficacy and safety of colic stents was demonstrated both as a bridge to surgery and for palliative decompression. In addition, this study emphasized the importance of the role of the colorectal stenting.

KEY WORDS: Large bowel obstruction; Colonic decompression; Colorectal cancer; Palliative stent; Palliative surgery

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Conflict of interest statement: Colic stents can be used for two indications in colorectal malignancies: palliative treatment of advanced disease and preoperative decompression as a bridge to surgery. In both indications, colic stents prevent secondary risks such as bowel obstruction of the bowel lumen, low for surgeons to mobilize the patient, stage the disease with imaging techniques, and block a

stent. Thus, it allows one-stage surgery with primary anastomosis. Palliative colorectal stenting was shown to be an effective and acceptable as palliative surgery. Colic stents showed long-term efficacy comparable to that of surgery.

Bayraktar B, Gonen I, Kefeli U, Demirel G, Sagiroglu J, Aşık C, Cücelik A, Cüneyt A, Bener O. Colorectal stenting for palliation and as a bridge to surgery: A 5-year follow-up study. *World Journal of Gastroenterology* 2014; 18(20): 2020-2026. Available from: DOI: <http://www.wjgnet.com/ISSN1007-958X/18202026.htm> DOI: <http://dx.doi.org/10.4236/wjg.2014.182020>

INTRODUCTION

Colorectal cancer alone is expected to account for 6.2% (126850) of all new cancer cases and it is estimated that almost 500,000 (18.2%) deaths from colorectal cancer will occur in the United States in 2014^[1]. The rate of hospitalizations causing large bowel obstruction is between 17% and 20%^[2]. Obstruction requires immediate treatment and the mortality rate of malignant large bowel obstruction is high. However, colic stents are being increasingly used in malignant large bowel obstruction. Colorectal stents can be successfully placed in the majority of cases with good clinical results^[3]. They are used for palliative indications in colorectal malignancies, palliative treatment of advanced disease, and preoperative decompression as a bridge to surgery^[4]. In both indications, colic stents prevent colostomy with stoma^[5]. Colic stents are well-tolerated and have low rates of morbidity and mortality^[6]. These stents have therefore attracted wide attention. In the light of these facts, we have report a 5-year follow-up study of colorectal stenting using colic stents, both as a bridge to surgery and as palliation.

MATERIALS AND METHODS

Patients and follow-up

Forty-nine patients with colorectal cancer who had undergone colorectal stent placement at two hospitals in Istanbul (Istanbul Kültür University, Gaziye Tuncel School of Medicine and Marmara University, Education and Research Hospital) were reviewed retrospectively over a 5-year period from January 2008 to January 2013. The obstruction was diagnosed clinically and radiologically. Histopathological diagnosis was achieved endoscopically. Stages of the disease for each patient were determined with pathological (if the patient underwent surgery) and clinical findings. Patients' symptoms, characteristics and clinicopathological data were obtained by reviewing medical records. All patients were similar after informed consent. All patients were staged according to the American Joint Committee on Cancer (7th edition) tumor node

Stents for colorectal obstruction: Past, present, and future

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Writing contributions: Kim U and Kim J. I declare potential conflicts of interest.

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Abstract

Since the development of uncovered self-expanding metal stents (SEMS) in the 1990s, endoscopic stents have received increasingly application of new materials

and new designs has expanded the indications for colorectal SEMS. As a result, covered stents are recommended as first-line modality for palliative care, and numerous types of uncovered SEMS are under development for extended clinical usage. Beyond a merely palliative purpose, finally, we will discuss the current status and the future development of lower colorectal stents.

Key words: COCR; obstructing lesion; self-expanding

Kim EJ *et al.* Stents for colorectal obstruction

Table 3 Comparison of distal guidelines

	BTS	Proximal colonic lesions	Palliative	Iron colonic obstruction	Rectal lesions	Covered vs. uncovered
ESGE	Δ	Δ	+	Δ	Δ	-
ASGE	○	Δ	○	○	Δ	+
KSGE	Δ	Δ	○	○	Δ	+

ESGE: European Society of Gastrointestinal Endoscopy; ASGE: American Society of Gastrointestinal Endoscopy; BTS: British Society of Gastrointestinal Endoscopy; KSGE: Korean Society of Gastrointestinal Endoscopy. BTS: Δ: Strongly recommended; ○: Recommended; Δ: Consider, vary based on clinical situation; +: Not recommended; -: Covered type preferable; ○: Uncovered type preferable; +: Same effectiveness.

INTRODUCTION

Since the development and experimental use of unapproved self-expanding metal stents (SEMS) in the 1990s, endoscopic stents have evolved dramatically. Covered stents have been developed mainly for the palliation of inoperable gastrointestinal malignancy. In cases with malignant colorectal obstruction, which requires urgent intervention, the traditional solution was surgical resection and stoma formation. However, the morbidity and mortality rates of this complex mortality were high, and thus a new therapeutic modality for malignant GI obstruction was sought^[1].

Today, an covered stent is considered the first-line

+ Contraindicaciones



■ ABSOLUTAS:

- **Perforación** colónica.
- Absceso intraabdominal.
- Isquemia intestinal.
- Coagulopatía no corregible.

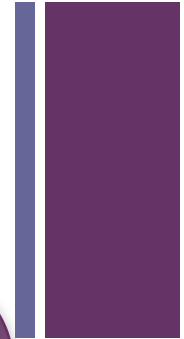
■ RELATIVAS:

- **Sepsis** de origen colorrectal.
- Distancia entre el tumor y el margen anal **<5cm** (riesgo expulsión, síntomas locales).
- **Proximales** al ángulo esplénico (problemas técnicos, en obstrucción colon proximal → cirugía urgente).
- Tumores que ocupan **segmentos largos/tortuosos** de colon.



Complicaciones

I: 25%, mortalidad relacionada <1%



■ MENORES

- **Dolor** anal transitorio
- **Tenesmo**
- **Rectorragia** (friabilidad tumor, daño mucosa)
- **Fiebre** autolimitada
- **Incontinencia** temporal (si <2cm al MA)
- **Impactación fecal**

■ MAYORES

- **Perforación** (I: 5-50%)
 - Aguda (problemas técnicos)
 - Tardía (calidad stent)
- **Reestenosis** (I: 7-10%)
 - Sobrecrecimiento tumoral
 - No cubiertas
- **Migración** (I: 4-23%)
 - Cubiertas
 - Diámetro/Longitud
 - Disminución tamaño tumor tras QT

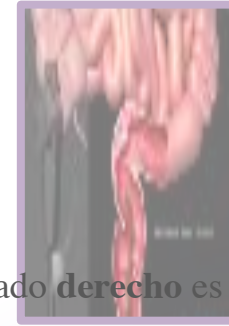
• Tratamiento inhibidores angiogénesis
• Dilatación con balón

• 2/3 → cirugía urgente
• Microperforación → tto conservador

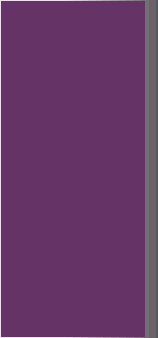
Recolocación nuevo stent → éxito 75-86%



Resumiendo...



- Consenso actual de que el tratamiento de elección en **cáncer colon obstructivo** del lado **derecho** es la **cirugía urgente**.
- **SEMS como puente a la cirugía electiva** en **cáncer colorrectal obstructivo izquierdo**, es una buena opción terapéutica. Sin embargo, todavía hay datos contradictorios y, las indicaciones definitivas, son todavía causa de debate, especialmente en pacientes que requieren múltiples SEMS para descompresión.
 - Tasa de éxito cirugía electiva **60-85%**.
 - Mayor tasa de anastomosis primaria.
 - Menores complicaciones médicas.
 - **Factor riesgo fracaso: necesidad múltiples SEMS.**
 - Tasa de recurrencia local más elevada con SEMS.
 - No afecta a la mortalidad perioperatoria ni a la supervivencia a largo plazo.
- No existe evidencia de qué tipo de stent es superior y si la elección de un tipo u otro influye en los resultados clínicos.
- SEMS es una alternativa a la cirugía urgente como **tratamiento paliativo**. Como los resultados a largo plazo son tema de debate, en pacientes que vayan a recibir *quimioterapia* o con *expectativa de vida larga*, se debe considerar otra alternativa.
- Procedimiento relativamente **seguro** con incidencia baja de complicaciones, es muy importante que el endoscopista/radiólogo tenga **experiencia** en el mismo y esté familiarizado con los materiales, ya que esto reduce el riesgo de complicaciones.



¡MUCHAS GRACIAS POR
SU ATENCIÓN!

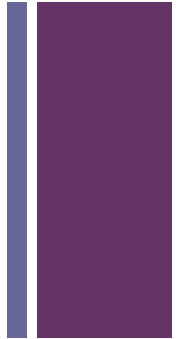
“El día que el hombre se diese cuenta de sus profundas equivocaciones, habría terminado el progreso de la ciencia.”

Marie Curie (1867-1934)





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Resultados en HGUCS



- Pacientes con diagnóstico de **oclusión intestinal por cáncer oclusivo colon izquierdo**
- Periodo: 2014-primer semestre 2016
- **N=13**
- **Sexo**
 - Mujeres 4 (30,7%)
 - Hombres 9 (69,23%)
- **Edad media** 67.15 años (mujeres 61,75 años, hombres 69,55 años)

Resultados en HGUCS

- **Localización tumor**
 - Sigma 5 (38,46%)
 - Unión recto-sigma 4 (30,76%)
 - Colon descendente 2 (15,38%)
 - Ángulo esplénico 2 (15,38%)

- **cTNM**
 - T3N0M0 5 (38,46%)
 - T3N+M0 2 (15,38%)
 - T3N+M1 3 (23,07%)
 - T4 N+M0 1 (7,69%)
 - T4N+M1 2 (15,38%)

Resultados en HGUCS



- **Cirugía urgente** 9 (69,23%)
 - Hartmann 8 (88.8%) **reconstrucción sólo 1 caso (12.5%)*
 - Sigmoidectomía + anastomosis primaria 1 (11.2%)

- Complicaciones médicas 4 (44,4%)
- Complicaciones quirúrgicas 2 (22,2%): colección intraabdominal, colección intraabdominal con fístula intestinal (resueltos ambos casos con drenaje percutáneo)
 - **Seguimiento** siguen vivos 9 (100%)

Resultados en HGUCS

- **Endoprótesis (BTS) 4 (30,7%)** *1 caso intento fallido y pasó al grupo de cirugía urgente
 - Complicaciones 0 (0%)
 - **Cirugía diferida 4 (30,7%)**
 - Sigmoidectomía + anastomosis primaria abierta (conversión) (a los 12d)
 - Sigmoidectomía + anastomosis primaria + metastasectomía hepática única laparoscópica (a los 13d)
 - Hemicolectomía izquierda + colostomía + bx hepática (a los 18d)
*metastasectomía hepática única posterior
 - Resección segmentaria colon + tubulización gástrica + pancreatectomía caudal + esplenectomía (a los 17d)
 - Anastomosis primaria 2 (50%)
 - Cir laparoscópica 1 (25%)
 - Complicaciones médicas 1(25%)
 - Complicaciones quirúrgicas 1(25%)
 - Seguimiento vivos 3 (75%)