Colonic stenting — Is the bridge to surgery worth its cost?



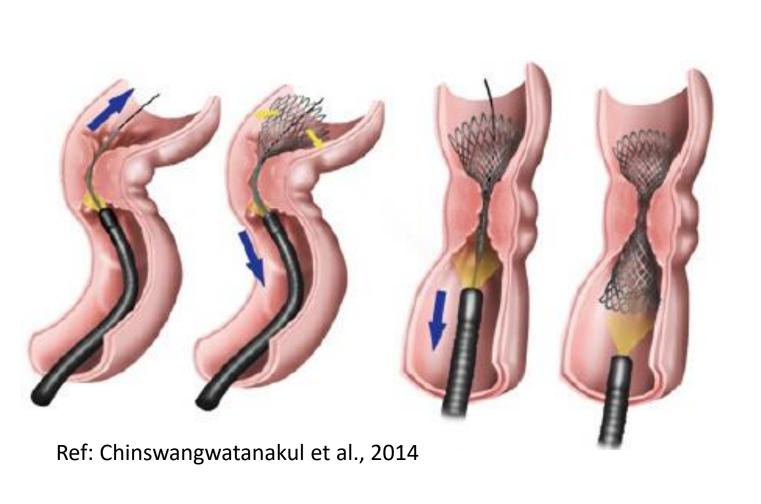
A single Asian institution experience with cost-effectiveness analysis

Singapore Healthcare Management 2023

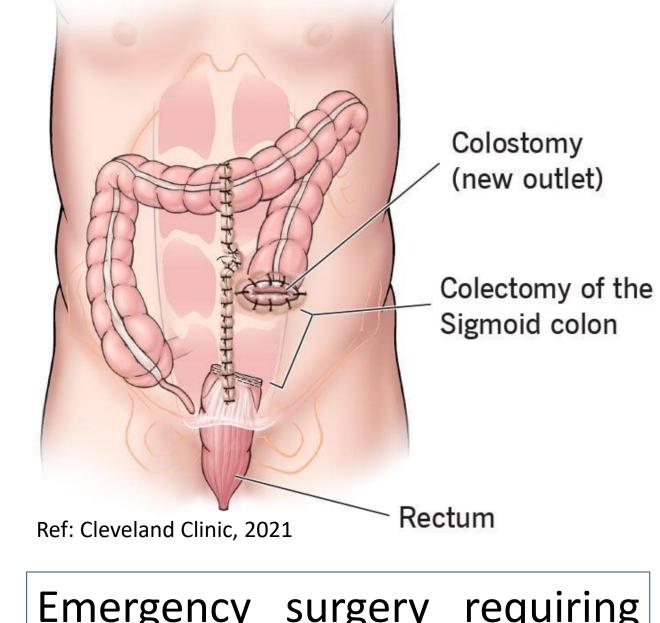
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Introduction

patients presenting with left-sided colonic obstruction, guidelines recommend stenting as a valid alternative to emergency surgery.



deployed Colonic stent successfully in an obstructed lesion via colonoscope.



Emergency surgery requiring midline scar and colostomy post-operatively

Benefits of Colonic Stenting in Obstructed Patients



Convert emergency surgery to semielective, avoid high anesthetic risks



Avoid stoma creation and subsequent reversal



Avoid exploratory laparotomy – **no** immediate surgery

However there has been controversy with regards to clinical safety and efficacy of colonic stenting. In our single institution, we reviewed outcomes prospectively and performed a cost analysis on colonic stenting for acute colonic obstruction.

Methods

Goal: to determine if colonic stenting is more cost-effective than surgery







Over a period from Apr 19 to Nov 22

Prospective cohort study

Endoscopic, surgical and financial data

USD 6,900

No stoma

reversal

Cost: \$39,100

0.33

Stoma

reversa

0.41

Cost: \$39,500

0.00

Cost: \$35,800

Inclusion criteria

- Presenting with left sided colonic obstruction
- Underwent emergent colonic stenting

Exclusion criteria

 Eventually declined surgery in favour of expectant management Results

40 patients underwent stent insertion

11 patients had no surgery 8 metastatic disease 3 comorbids 1 neoadjuvant

> 29 bridge to surgery

> > 26 achieved technical success (89.7%) 24 achieved clinical success (82.8%)

Patients who underwent colonic stenting

Median Age 66 (IQR 57 – 71) Malignant cause of obstruction 27 (93%) Length of symptoms (days) 2 (IQR 3-7) TNM stage Stage I 0 (0%) Stage II 17 (59%) Stage III 6 (21%) Stage IV 4 (14%) **Tumour location**

Transverse colon 1 (3%) Splenic flexure 1 (3%) Descending colon 8 (28%) Sigmoid 19 (66%)

Outcomes Stent complications Perforation 3 (10%) Migration 0 (0%) Time to surgery (range) 13 days (0-41) 8 (28%) vs 21 (72%) 226 (189-271)

Open vs Laparoscopic Median procedure time (IQR) Surgical complication 1 (3%) 2 (7%) IV 1 (3%)

When (83%),successful colonic stenting is **ALWAYS** more cost-effective than emergency surgery.

Overall incremental cost-effectiveness ratio 0.81, favouring colonic stenting

Colonic Stenting vs USD 6,900 0.00 Resection vith stoma Emergency Surgery 1.00 0.10 USD 22,400 No reversa Cost: \$28,900 Clinical Success USD 6,500 Resection 0.73 Cost: \$28,500 USD 22,000 Stoma 0.00 reversal Cost: \$52,900 Resection 0.00 USD 6,900 Stenting with stoma Clinical USD 39,500 Failure 1.00 Average Costs: 0.07 USD 6,500 \$32,900 No reversa Cost: \$46,000 Resection Obstructed no stoma 0.10 USD 39,100 Tumour Cost: \$45,600 Stoma 0.25 Cost \$46,100

Resection

with stoma

USD 39,500

Resection

no stoma

USD 39,100

0.33

Emergency

Surgery

Average Costs:

\$40,700

0.38

0.62

In conclusion, colonic stenting has been shown to be



Safe



High rates of clinical success





Decrease in stoma rates