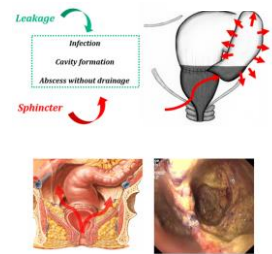


Cost-Effectiveness Assessment of Vacuum Therapy (SPONGE DEVICE) for Treatment of Anastomotic Fistula from Colorectal Surgery

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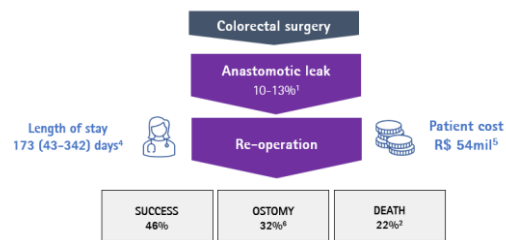
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Introduction: Anastomotic leak is a relatively frequent complication in the postoperative period of low colorectal surgery, leading to increased mortality. This treatment's management depends on the patient's clinical manifestations and stability and the distance from the anastomoses¹., and it re



1. Figures. Anastomotic leak

Objective: The literature demonstrated that 13% of patients who have done colorectal surgery could develop anatomic fistula and evolution to the definitive stoma due to the present analysis to expose the economic benefits of sponge device using vacuum therapy in anastomotic fistula versus conventional treatment or re-operation.



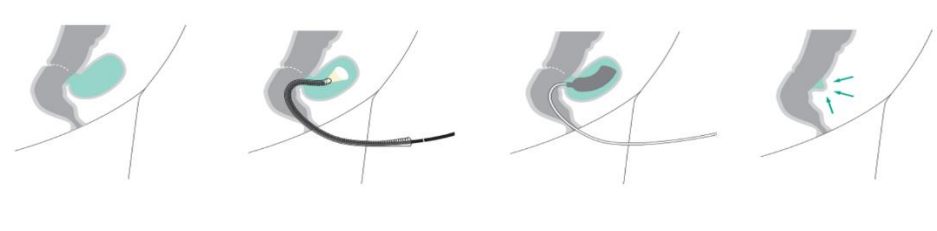
2. Clinical outcomes patients after colorectal surgery

Methods: It compared the conventional treatment (re-operation) versus sponge (open pore polyurethane) using the vacuum for treatment in an anastomotic fistula. In sponge, the group considered a total of 10 changes (average of 1,5 sponge devices per 72 hours) in the ambulatory procedure.

2. Intervention: Endo-Sponge (open pore polyurethane sponge that can be adapted and modeled according to the cavity needs to be drained). Method by endoscopically assisted placement of an open-cell sponge connected to a vacuum device into the abscess cavity via an introducer device.

Quantity: In case of big cavities up to 3 sponges can be inserted.

Changed: Every 2-3 days during 10 days.



parameters and direct medical costs were derived from a published literature review from the Brazilian private health system.

Figure 4 Decision tree

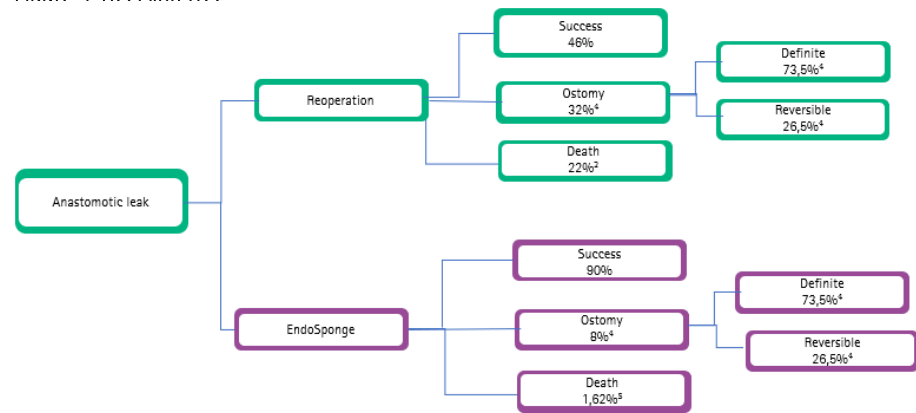


Figure 5 Clinical Data

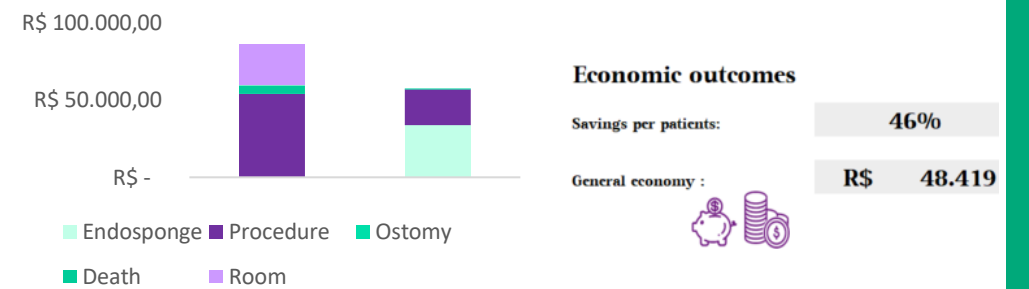
	SURGERY	ENDOSPONGE	Sources
Success	46%	90%	
Ostomy / Stomas	32%	8%	Riss, 2010
	Definitive 74%	74%	Cruz, 2008
	Reversible 27%	27%	Cruz, 2008
Death	22%	2%	Ohnishi, 2021
	ICU (Days)	7	0
	Room (Days)	23	0
	Outpatient clinic (20 days)	-	10

Figure 6. - Costs data

	SURGERY	ENDOSPONGE
Cost Procedure (re-operation)	Kil value (spong)	R\$ 3.400,00
	Treatment days	20
	1 kits every 72hs	2
	Qid exchanges	10
Value for 20 day		R\$ 34.000,00
General costs		
ICU (Days)	R\$	3.836,00
Room (Days)	R\$	1.150,00
Endoscopically	R\$	2.298,00
Death	R\$	24.581,43
Stoma bag (10und/month)	R\$	466,30

Resultados

The sponge device showed a total cost of BRL 57k per patient and conventional treatment (re-operation) BRL 105k representing a saving of 46%. The new device can reduce re-operation, length of stay, mortality, and number of stomas representing the quality of life for the patients



Conclusions

The clinical benefits of sponge devices can be translated into economic benefits for patients and the health system. However, there is a need for further assessment of this therapy with well-designed randomized or cohort studies.

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