THE ROLE OF LAPAROSCOPY IN THE TRADITIONAL HARTMANN'S PROCEDURE

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INTRODUCTION

Hartman procedure (HP) was first described to treat obstructive tumor of the sigmoid colon. It is often also performed in the setting of complicated diverticulitis.
The aim of this study is to determine the change in our surgical approach during the last decade while treating an acute abdominal condition that requires a Hartman procedure.

METHODS

Our prospective maintained database was searched and analyzed for two time periods:

- January 2009 to December 2011 (TP1)
- January 2019 to December 2021 (TP2)

for all Harman procedures and colostomy closure.

RESULTS

- Table 1 shows demographics in the two-time periods
- Table 2 shows demographics in the two surgical approaches: laparoscopy vs open
- Table 3 demonstrate the post operative results
- Table 4 summarized the characteristics of the surgical pathology for thus how were operated due to tumors

Table 1

Variables	TP1 (2009-2011)	TP2 (2019-2021)	P-value
Number	26	26	
Age			0.82
Mean±SD	72±15	71±16	
Sex			0.17
Male	16 (61%)	11 (42%)	
Female	10 (39%)	15 (58%)	
Comorbidity			
Diabetes	4 (15%)	9 (35%)	0.11
Hypertension	15 (58%)	11 (42%)	0.27
Dyslipidemia	8 (31%)	10 (39%)	0.56
Renal failure	8 (31%)	2 (8%)	0.035
Atrial fibrillation	2 (8%)	4 (15%)	0.39
Ischemic heart disease	8 (31%)	3 (12%)	0.09
Previous abdominal surgery	7 (27%)	8 (31%)	0.2
Indication for surgery			0.91
Diverticular disease	13 (50%)	12 (46%)	
Obstruction			
Malignancy	10 (39%)	10 (38%)	
Other	3 (11%)	4 (15%)	
Surgical approach			0.025
Laparoscopy (%)	3 (11%)	10 (39%)	
Open (%)	23 (89%)	16 (61%)	

Table 2

Variables	Open	Laparoscopy	P-value
Number	39	13	
Age			0.91
Mean±SD	71±16	72±14	
Sex			0.63
Male	21 (54%)	6 (46%)	
Female	18 (46%)	7 (54%)	
Comorbidity			
Diabetes	8 (21%)	5 (39%)	0.2
Hypertension	20 (51%)	6 (46%)	0.75
Dyslipidemia	11 (28%)	7 (54%)	0.09
Renal failure	7 (18%)	3 (23%)	0.69
Atrial fibrillation	5 (13%)	1 (8%)	0.62
Ischemic heart disease	8 (21%)	3 (23%)	0.85
Previous abdominal surgery	12 (31%)	3 (23%)	0.6
Indication for surgery			0.7
Diverticular disease	19 (49%)	6 (46%)	
Obstruction			
Malignancy	14 (36%)	6 (46%)	
Other	6 (15%)	1 (8%)	

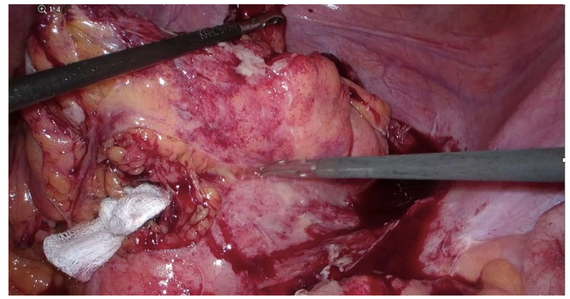
Table 3

Variables	Open	Laparoscopy	P-value
Post operative complication	23 (59%)	5 (39%)	0.2
Death	12 (31%)	1 (8%)	0.1
Reoperation	8 (21%)	2 (15%)	0.69
Length of stay (days), Mean±SD	21±31	12±8	0.28
Admission to ICU	14 (36%)	2 (15%)	0.17
Closure of colostomy			0.14
Open	11 (28%)	2 (15%)	
Laparoscopic	2 (5%)	3 (23%)	
Didn't close	26 (67%)	8 (62%)	
Time to closure (days), Mean±SD	178±52	309±317	0.41
Diverticular disease	176	168	
Obstruction	194	873	
LOS after closure (days), Mean±SD	6±2	5±1	0.65

Table 4

Variables	Laparoscopy	Open	P-value
Number	6	14*	
Margin			0.78
Free	6 (100%)	11(91%)	
Positive	0	1 (9%)	
Grade			0.17
Moderate	6 (100%)	9 (90%)	
Poorly	0	1 (10%)	
T stage			0.094
1	0	0	
2	0	1(10%)	
3	5 (83%)	4 (40%)	
4	1 (17%)	5 (50%)	
LVI			
Positive	1(17%)	3 (30%)	0.04
Negative	5(83%)	7 (70%)	
Tumor deposit			0.06
Positive	1 (17%)	6 (60%)	
Negative	5 (83%)	4 (40%)	
LN, Mean±SD	15.6±6.9	15.4±6.1	0.93
Positive LN, Mean±SD	2.5±2.3	1.6±3.4	0.53

* 1 out 14 was due to serous papillary ovarian carcinoma , 3 out 14 were partially missing



Laparoscopic Hartman for perforated diverticulitis

TP1 2009-2011
26 HP
3/26 (11%) laparoscopically
2 conversions

TP2 2019-2021
26 HP
10/26 (38%) laparoscopically
3 conversions

CONCLUSIONS

In the last decade there is a paradigm shift toward the laparoscopic approach in performing HP.
Laparoscopy seems to offer improved recovery and the potential for less post-operative complications.
Laparoscopy is a safe approach in the acute setting.