

PROPHYLACTIC CATHETER-PEXY DOES NOT IMPROVE ONE-YEAR PERITONEAL DIALYSIS CATHETER PATENCY: A LARGE SINGLE-CENTER COHORT

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Introduction

- Peritoneal dialysis (PD) has evident advantages when compared to hemodialysis.¹
- PD catheter dysfunction from obstruction or migration limits long-term patency.²
- Prophylactic techniques such as catheter-pexy (CP) and omentopexy have been proposed.^{4, 5}
- Large cohort data evaluating CP are limited.⁵

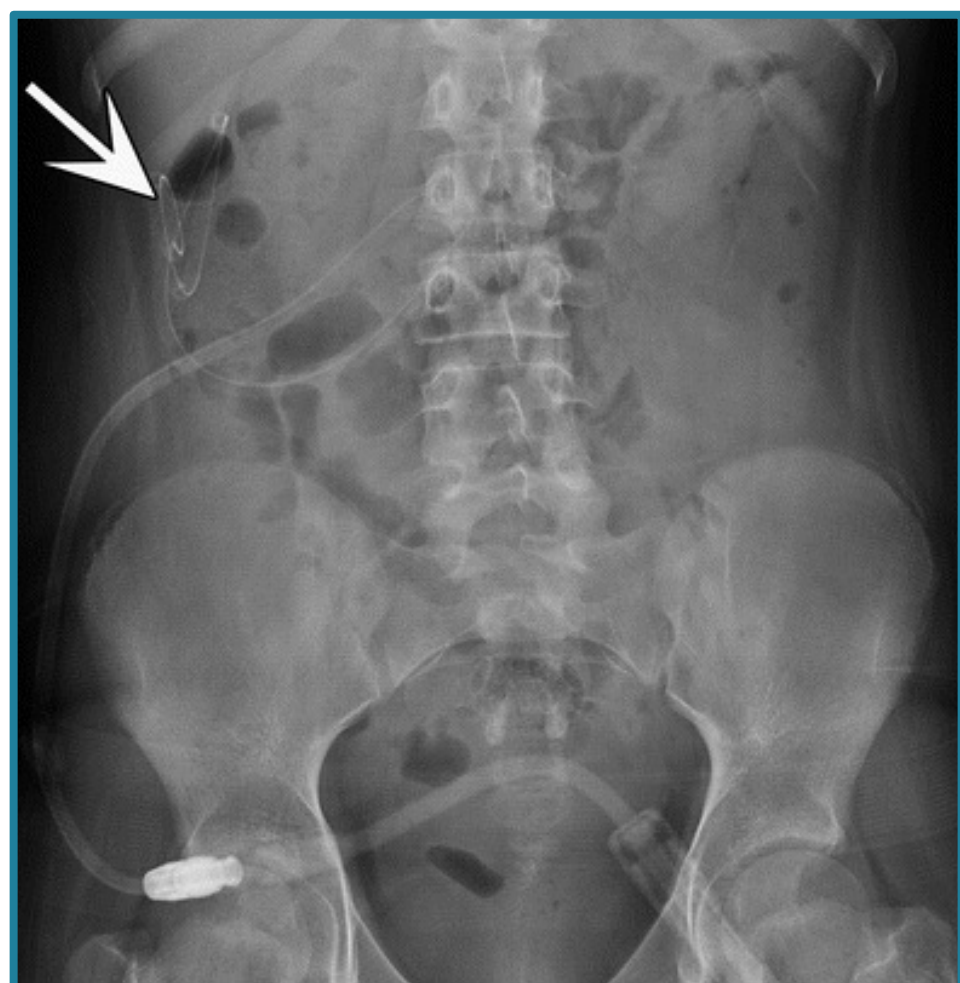
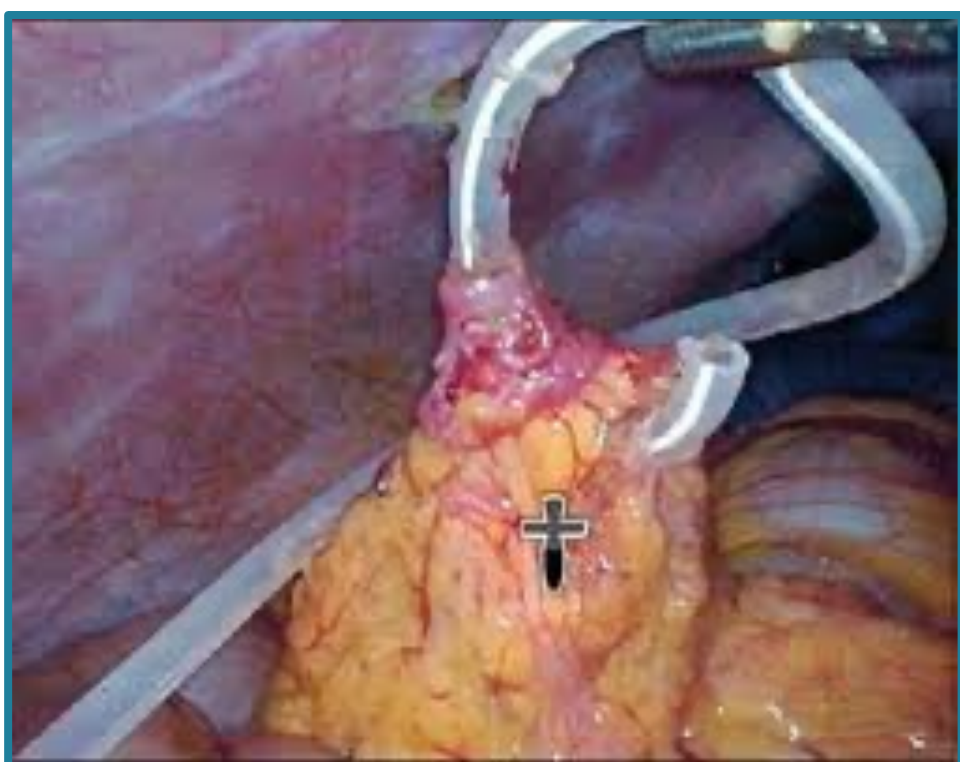
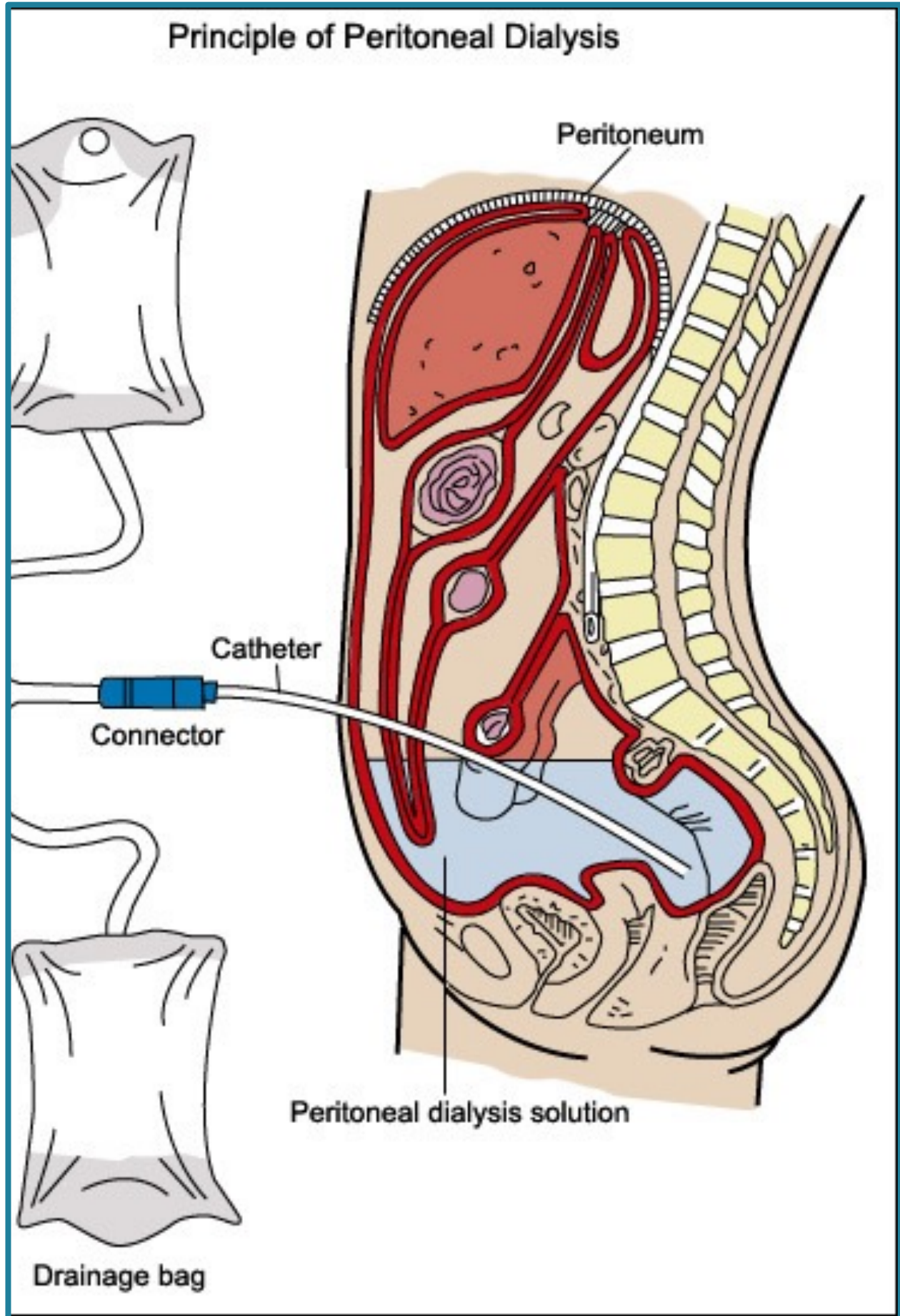


Figure 3 (left): Image of PD catheter placement in abdomen.⁶ Figure 4 (right top): omental wrapping.⁷ Figure 5 (right bottom): catheter tip migration.⁶

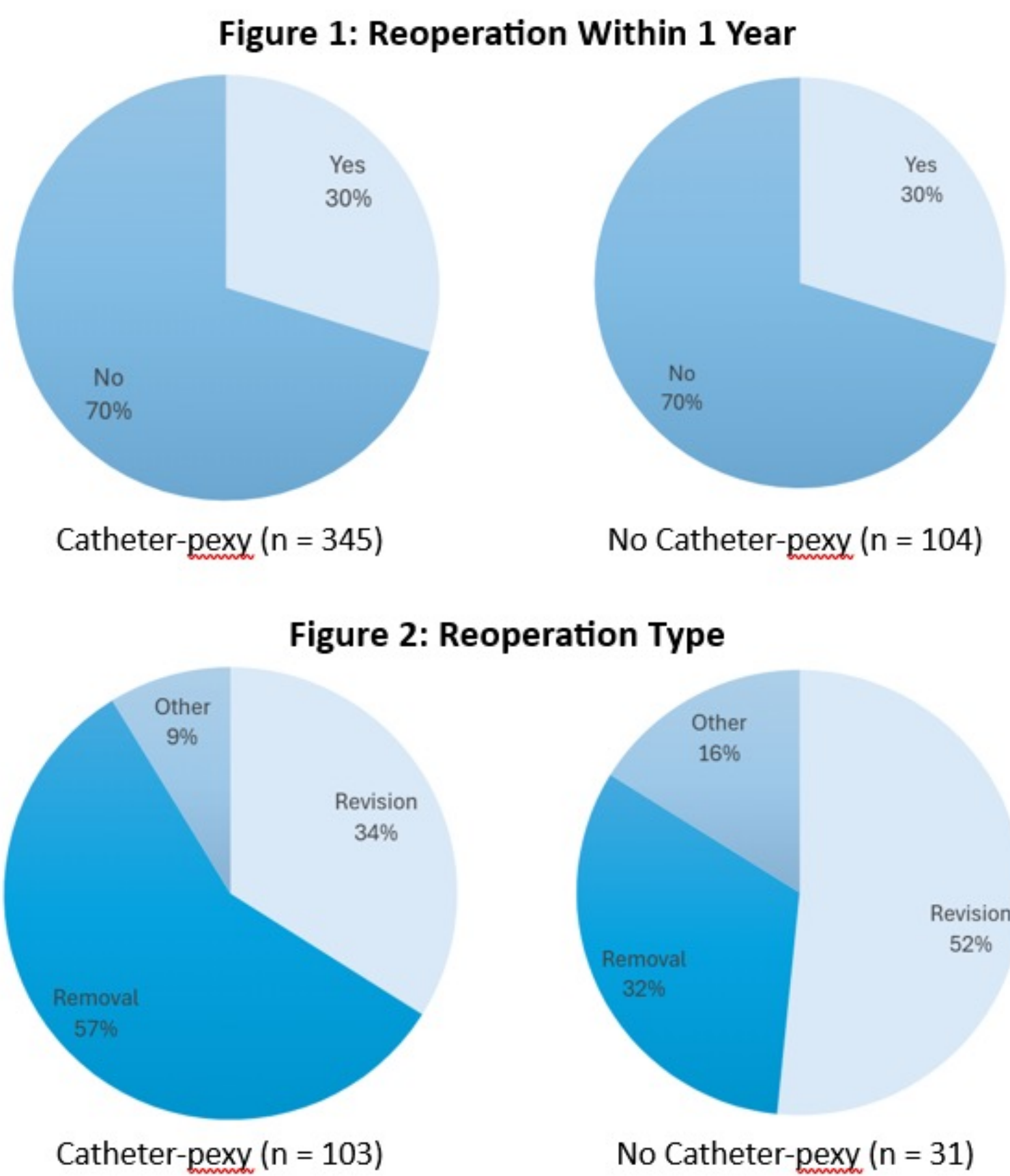
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Methods

- Design:** retrospective cohort study
- Sample:** 524 patient identified, 449 adult patients included in final analysis who had PD catheters placed at Sentara Norfolk General Hospital between 1/1/2016 and 11/1/2023 included in final analysis
 - Patients were excluded if they underwent transplantation, died, voluntarily transitioned to hemodialysis, or discontinued PD for reasons unrelated to catheter patency within one year of the index insertion.
 - Final analysis 345 (76.8%) had prophylactic CP, and 104 (23.2%) did not.
- Primary outcome:** 1-year patency, defined as the absence of revision or removal surgery 1 year after catheter placement.
- Primary exposure:** CP performed during PD catheter placement.

Results



Figures 1 & 2. Representation of patients requiring reoperation comparing CP vs non-CP groups and types of reoperation.

Variable		Catheter Pexy (n=345)		No Catheter Pexy (n=104)		p-value
		n	%	n	%	
Age (median [IQR])		59	47, 69	59	47, 69	0.84
Sex	Male	186	53.9%	60	57.7%	0.50
	Female	159	46.1%	44	42.3%	
Race	White	111	32.2%	38	36.5%	0.36
	Black or African American	201	58.3%	61	58.7%	
	Asian	19	5.5%	4	3.8%	
	Other Race	14	4.1%	1	1.0%	
		12	3.5%	0	0.0%	
Hispanic Ethnicity		29.1	24.8, 34.9	29.1	24.7, 35.2	0.05
BMI (median [IQR])		29.1	24.8, 34.9	29.1	24.7, 35.2	0.72
Comorbidities	CHF	113	32.8%	32	30.8%	0.70
	PVD	66	19.1%	24	23.1%	0.38
	Liver Disease	4	1.2%	3	2.9%	0.21
	Diabetes	204	59.1%	63	60.6%	0.79
	AIDS	6	1.7%	2	1.9%	0.90
Operative Time (median [IQR])		33	27, 46	32	26, 44	0.25
Concomitant Omentopexy		123	35.7%	21	20.2%	0.003

Table 1. All baseline characteristics were similar between groups, except for more frequent concomitant omentopexy in the CP group (35.7%) compared to the no-CP group (20.2%) (p=0.03).

Conclusions

This large cohort study found no evidence that prophylactic CP or omentopexy improves 1-year PD catheter patency. Additionally, although obesity is considered a relative contraindication to PD, 1-year outcomes were not inferior for this cohort. Further research focusing on prospective randomized trials may clarify subgroups that could benefit from prophylactic strategies.

Multivariable Logistic Regression for Reoperation Within 1 Year				
Variable Name		OR	Lower 95% CI	Upper 95% CI
Catheter Pexy		0.94	0.56	1.58
Age		1.01	0.99	1.02
Male		0.78	0.50	1.22
Race*	Black	1.02	0.62	1.68
	Asian	0.98	0.34	2.75
	Other	0.62	0.12	3.23
Hispanic Ethnicity		1.15	0.22	5.98
BMI**	Class I	0.51	0.26	1.02
	Class II	1.2	0.58	2.48
	Class III	0.84	0.43	1.63
CHF		1.27	0.79	2.05
PVD		0.69	0.38	1.25
Liver Disease		1.22	0.21	6.94
Diabetes Mellitus		0.78	0.29	1.23
AIDS		1.67	1.17	2.39
Concomitant Omentopexy		1.07	0.66	1.72
*White race used as comparison				
**BMI Class I (30-34.9), Class II (35-39.9), Class III (>40)				

Table 2. Multivariable regression showing no variable was associated with 1-year patency, particularly CP, omentopexy, or BMI.