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SIGNIFICANCE OF NURSING NUTRITIONAL INTERVENTION IN CYSTECTOMY PATIENTS

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INTRODUCTION AND OBJECTIVES:

The length of stay (LOS) after cystectomy is an important outcome after surgery. The nurse plays a vital role in the perioperative care of the patient by assessing the pre-operative and ongoing nutritional status. Early nursing intervention may enhance the post-operative rehabilitation and therefore impact on the LOS. Several studies in the colorectal literature have shown that improving nutritional status decreases LOS and improves survival. The objective of our current study is to evaluate the impact of nutritional risk on the LOS in patients who underwent radical cystectomy for bladder cancer.

MATERIALS AND METHODS:

This is a retrospective analysis of 167 patients who underwent radical cystectomy in 2009. The analysis included the nutritional status, Charlson comorbidity score and Body Mass Index (BMI) of these patients. A chart review was done and information on age, gender, BMI, Charlson Comorbidity Index was extracted. It is hypothesized that the nutritional risk status of a patient is associated with their LOS. To assess this relationship, we used a linear regression with LOS as the outcome and nutritional risk status (Low Risk, Medium Risk, High Risk), age, BMI, American Society of Anesthesiologist (ASA) physical status classification I/II v. III/IV, and Charlson Score (0, 1, or >1) as covariates.

RESULTS:

There were 126 (75%), 23 (14%) and 18 (11%) patients in the Low, Medium and High nutritional risk groups respectively. The adjusted mean LOS was 10.1, 9.4 and 9.1 for Low, Medium and High respectively. However these results did not reach statistical significance (p=0.9) after adjusting for age, BMI, ASA and Charlson score. On average, patients in Low risk group had a 1 day increase in LOS compared to the High risk group (95% CI -5, 3; p=0.6).

Table 1. Patient Characteristics Frequency (Percent) & Median (IQR)

		Nutritional Risk Groups		
		Low (n=126)	Medium (n=23)	High (n=18)
	Age at Surgery (yrs)	67 (61, 75)	71 (60, 76)	78 (71, 83)
Gender	Male	101 (80%)	17 (74%)	15 (83%)
	Female	25 (20%)	6 (26%)	3 (17%)
	BMI	27 (25, 31)	27 (26, 30)	27 (24, 31)
ASA	I/II	38 (30%)	3 (13%)	2 (11%)
	III/IV	88 (70%)	20 (87%)	16 (89%)
	GFR	62 (50, 71)	58 (45, 66)	47 (36, 60)
	Charlson Score	1 (0, 2)	1 (0, 2)	2 (1, 3)

Table2. Linear Regression for outcome of LOS

		Coefficient	95% Confidence Interval	p-value
	ASA (I/II v. III/IV)	1.55	-1.41, 4.50	0.3
Charlson Score	0	Ref.	Ref.	0.09
	1	3.55	0.395, 6.70	
	> 1	1.37	-1.65, 4.39	
	Age (per 10 yrs)	0.539	-0.792, 1.87	0.4
	BMI	-0.0652	-0.330, 0.200	0.6
Nutritional Risk Status	Low	Ref.	Ref.	0.9
	Medium	-0.677	-4.28, 2.92	
	High	-1.00	-5.18, 3.17	

CONCLUSIONS:

The patients with suboptimal nutritional risk status had on average a shorter LOS in our study compared to patients with good nutritional status. While the difference in LOS was not statistically significant, the wide confidence interval did not exclude the possibility that nutritional status does have a significant impact. However, if patients with poor nutritional status do not have a longer LOS, it could be explained by a higher awareness of their deemed risk and therefore more intensive monitoring during their hospital stay. Nurses have an essential role in daily monitoring and improving nutritional status and thus shortening the LOS. Further studies would be required to make a definitive conclusion about the effect of nutritional risk groups on LOS.