(PD60-10) IMPACT OF PREOPERATIVE CONTROLLING NUTRITIONAL STATUS (CONUT) SCORE ON PERIOPERATIVE MORBIDITY AND SURVIVAL OUTCOMES IN PATIENTS WITH BLADDER CANCER TREATED WITH RADICAL CYSTECTOMY: A MULTICENTRE ANALYSIS

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Conflict of Interest Disclosure

I have no potential conflict of interest to report

Introduction

- Radical Cystectomy (RC) remains an highly morbid procedure
- The ability to predict perioperative complications is crucial in the preoperative workup of RC
- Although the diagnosis and treatment for BCa have significantly improved, the clinical outcome still remains poor

Therefore, it is necessary to identify biomarkers that have the potential to predict the perioperative morbidity and oncological outcomes.

The Controlling Nutritional Status (CONUT) score

- The Controlling Nutritional Status is a score based on serum albumin, lymphocyte count and total cholesterol proposed as a comprehensive index that could access the immune response status and long-term nutritional effect of the host.

Parameter	None	Light	Moderate	Severe
Albumin (g/dl)	≥ 3.50	3.00 - 3.49	2.50 - 2.99	< 2.50
Score	0	2	4	6
Lymphocyte (/mm^3)	≥ 1600	1200 - 1599	800 - 1199	< 800
Score	0	1	2	6
Cholesterol (mg/dl)	≥ 180	140 - 179	100 - 139	< 100
Score	0	1	2	3

Methods

Setting: Retrospecitve, Multi - Institutional study among five European high volume centres

Patients who underwent RC for non-metastatic BCa between January 2002 and December 2018
N = 347

Low CONUT

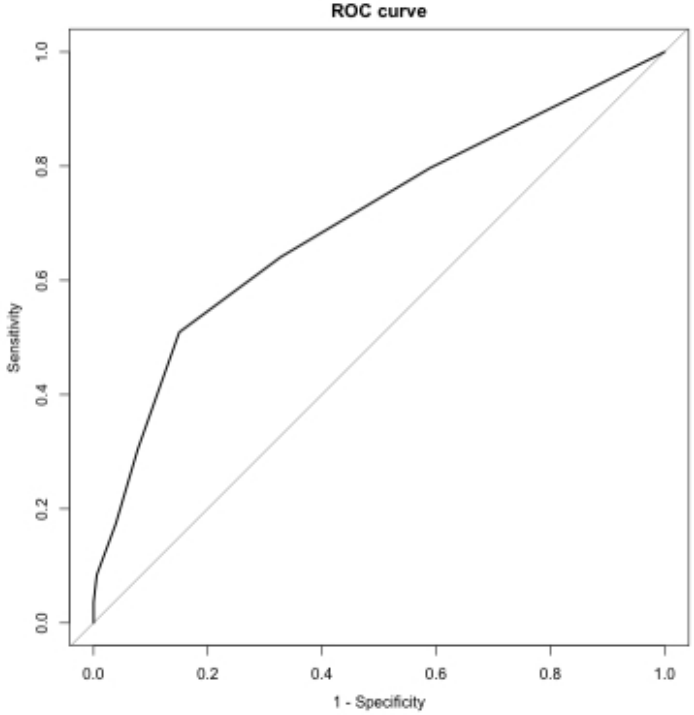
High CONUT

Primary Endpoint
To evaluate the role of preoperative CONUT in the assessment of oncological outcomes (OS, RFS, CSS)

Secondary Endpoint
To evaluate the role of preoperative CONUT in the assessment of perioperative morbidity in terms of major complications (Clavien-Dindo ≥3), LOS, 30-days readmission and 90-days mortality

CONUT cut-off

- The receiver-operating curve (ROC) of CONUT score for OS was analyzed and the cut-off value for preoperative CONUT score was defined by the maximum Youden index value.



AUC 0.72 (95%CI 0.65-0.77)

Optimal cut-off: 3

Results

Table 1. Clinicopathological features of the study cohort

variables	Total	low CONUT	high CONUT	p
n. patients, n. (%)	347	235 (67.7)	112 (32.3)	
Male, n. (%)	239 (68.9)	164 (69.8)	75 (67.0)	0.68
Age, median (IQR)	72 (74 - 68)	71 (63 - 77.7)	73.5 (67.9 - 79.3)	0.003
BMI, median (IQR)	25.5 (23 - 28.3)	25.6 (23.1 - 28.1)	25.4 (23 - 28.6)	0.8
CCI, n. (%)				0.73
0	44 (12.7)	30 (12.8)	14 (12.5)	
1	34 (9.8)	25 (10.6)	9 (8.0)	
≥ 2	269 (77.5)	180 (76.6)	89 (79.5)	
Adjuvant treatment, n. (%)	106 (30.5)	67 (228.5)	39 (34.8)	0.29
Surgical technique, n. (%)				0.01
open	272 (78.4)	174 (74.0)	98 (87.5)	
laparoscopic	38 (11.0)	33 (14.0)	5 (4.5)	
robot -assisted	37 (10.7)	28 (12.0)	9 (8.0)	
Urinary diversion, n. (%)				0.04
ileal conduit	231 (66.6)	154 (65.5)	77 (68.8)	
orthotopic neobladder	43 (12.4)	36 (15.3)	7 (6.3)	
ureterocutaneostomy	73 (21.0)	45 (19.1)	28 (25.0)	
Locally Advanced (≥pT3), n. (%)	186 (53.6)	108 (46.0)	78 (69.6)	< 0.001
pN positive, n. (%)	102 (29.4)	57 (24.3)	45 (40.2)	0.003
High Grade, n. (%)	316 (91.1)	208 (88.5)	108 (96.4)	0.03
LVI, n. (%)	193 (55.6)	139 (59.1)	54 (48.2)	0.07
PSM, n. (%)	36 (10.4)	16 (6.8)	20 (17.9)	0.03
Concomitant cis, n. (%)	89 (25.6)	63 (26.8)	26 (23.2)	0.56
Follow-up, median (IQR)	26 (12 - 60)	32 (14 - 71)	14 (8 - 33)	< 0.001

Results

Figure 1. Kaplan-Meier estimates for Overall Survival (a), Recurrence-free Survival (b) and Cancer-specific Survival (c) according to the preoperative CONUT score

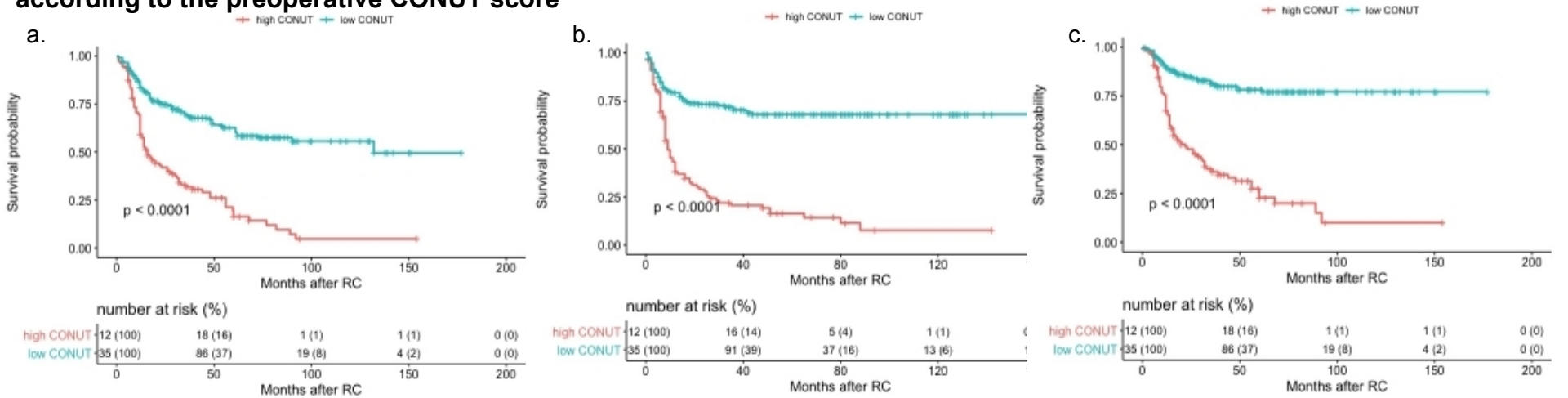


Table 2. Multivariate Cox's regression analysis

Variable	OS*		RFS*		CSS*	
	HR (95% CI)	p	HR (95% CI)	p	HR (95% CI)	p
High CONUT	2.5 (1.7 - 3.5)	< 0.001	2.71 (1.9 - 3.9)	< 0.001	3.6 (2.4 - 5.5)	< 0.001

* adjusted for age, sex, BMI, CCI, ASA score, adjuvant treatment, pT, pN, Grading, LVI, PSM and concomitant cis.

Results

Table 3. Lenght of stay, perioperative complications, 30-days readmission and 90-days mortality stratified by CONUT

variables	Total	low CONUT	high CONUT	p
Patients, n. (%)	347	235 (67.7)	112 (32.3)	
Lenght of stay (days), median (IQR)	19 (15 - 26.5)	18 (14 - 25)	21 (15.8 - 28)	0.002
Major complications, n. (%)	76 (21.9)	33 (14.0)	43 (38.4)	< 0.001
Readmission at 30 days, n. (%)	68 (19.6)	34 (14.5)	34 (30.4)	< 0.001
Mortality at 90 days, n. (%)	9 (2.6)	4 (1.7)	5 (4.5)	0.15

Table 4. Multivariate Binomial Logistic Regression Analysis

30-days Readmission rate*		
Variable	**OR (95% CI)**	**p**
High CONUT	2.5 (1.3 - 4.9)	0.001
Perioperative major complications (Clavien - Dindo 3 - 5)*		
Variable	**OR (95% CI)**	**p**
High CONUT	2.9 (1.6 - 5.4)	< 0.001

*adjusted for Age, Sex, BMI, CCI, ASA score, pT, pN and type of urinary diversion

Conclusions

- An high preoperative CONUT score was found in almost 1 out of 3 BCa patients undergoing RC with curative intent.

- High preoperative CONUT score was associated with features of tumor aggressiveness and was an indipendent predictor of poor oncological outcomes.

- Moreover, high preoperative CONUT score correlated with prolonged LOS and was an independent predictor of major perioperative complications and 30-days readmission.

Its preoperative assessment can be used as a simple and inexpensive biomarker that could help to identify patients who may benefit from an intensified regimen of supportive nutrition and integrative cares.