

#408 Association between nutritional status at admission and underactive bladder outcome



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Hypothesis/Aim of study

The Controlling Nutritional Status (CONUT) score measures the nutritional status of patients using serum albumin, cholesterol, and total lymphocyte count as parameters. To date, reports have stated that the malnutrition assessed using CONUT score is a poor prognostic factor for cancer patients and a risk factor for postoperative infection. Meanwhile, there are patients who require intermittent catheterization due to underactive bladder after removal of the indwelling bladder catheter because Activities of Daily Living decreases after hospitalization or surgery. However, no study has examined the relationship between nutritional status at admission and the outcome of underactive bladder using CONUT score at admission. Therefore, this study aimed to clarify the relationship.

Materials and Methods

This retrospective included patients admitted to our hospital for non-urological diseases, who developed an underactive bladder after removing an indwelling bladder catheter and temporarily required intermittent catheterization. CONUT scores were measured by blood test at admission and the outcome of underactive bladder was assessed at discharge (with or without continued intermittent catheterization or permanent catheterization). Based on CONUT score, the patients were divided into low score (L group; 0–3 points) and high score (H group; 4 points or more) groups. We compared the outcome of underactive bladder between the two groups and determined the risk factors for the poor outcome of underactive bladder using multivariate logistic regression analysis. P values < 0.05 were considered statistically significant.

§ albumin, ‡ total cholesterol, ¶ total lymphocyte count

Subjects	CONUT score
Patients who developed an underactive bladder after removing an indwelling bladder catheter	L group; 0–3 points H group; 4 points or more
Definition of underactive bladder	Underactive bladder outcome
Continued intermittent catheterization or permanent catheterization	Assessed at discharge

CONUT score evaluation items				
§ ALB (g/dl)	≥ 3.5	3.00 – 3.49	2.50 – 2.99	< 2.5
ALB score	0	2	4	6
‡ T-cho (mg/dl)	≥ 180	140 – 179	100 – 139	< 100
T-cho score	0	1	2	3
¶ TLC (/μl)	≥ 1600	1200 – 1599	800 – 1199	< 800
TLC score	0	1	2	3

Results

Patients' background ①				
	Entire	L group	H group	P value
Number of patients (%)	254 (100)	182 (71.7)	72 (28.3)	–
Sex				0.148
Men (%)	88 (34.6)	68 (37.4)	20 (27.8)	
Women (%)	166 (65.4)	114 (62.6)	52 (72.2)	
Age (years old)	78.4±10.3	76.7±10.1	82.6±9.5	< 0.001
BMI (kg/m ²)	22.2±4.0	23.0±4.0	20.1±3.3	< 0.001
Performance Status				
0	107 (42.1)	94 (51.6)	13 (18.1)	< 0.001
1	55 (21.7)	36 (19.8)	19 (26.4)	0.249
2	55 (21.7)	34 (18.7)	21 (29.2)	0.068
3	35 (13.8)	18 (9.9)	17 (23.6)	0.004
4	2 (0.7)	0 (0)	2 (2.7)	0.024

Patients' background ②				
	Entire	L group	H group	P value
Hypertension (%)	207 (81.5)	152 (83.5)	55 (76.4)	0.187
Diabetes mellitus (%)	66 (26.0)	51 (28.0)	15 (20.8)	0.239
Spinal cord disease (%)	64 (25.2)	55 (30.2)	9 (12.5)	0.003
Cerebral hemorrhage (%)	54 (21.3)	43 (23.6)	11 (15.3)	0.143
Cerebral infarction (%)	21 (8.3)	15 (8.2)	6 (8.3)	0.981

Correlation between CONUT score and parameter						
Correlation coefficient (r)				P value		
Age (years old)	0.385			< 0.001		
BMI (kg/m ²)	− 0.332			< 0.001		
Relationship between CONUT score and underactive bladder outcome						
L group (%)		H group (%)		P value		
Poor outcome	22 (12.1)		53 (73.6)		< 0.001	
Parameters associated with underactive bladder outcome						
	Univariate analysis			Multivariate analysis		
	OR	95% CI	P value	OR	95% CI	P value
Sex: male	0.86	0.49–1.53	0.614	–	–	–
Age (>81)	2.00	1.16–3.48	0.013	1.58	0.74–3.56	0.240
BMI (<19.125)	2.13	1.16–3.92	0.016	1.27	0.56–3.04	0.575
Performance status (>2)	3.39	1.95–5.95	< 0.001	2.63	1.25–5.60	0.011
Hypertension	0.73	0.37–1.46	0.368	–	–	–
Diabetes mellitus	0.87	0.46–1.62	0.680	–	–	–
Spinal cord disease	0.83	0.43–1.56	0.582	–	–	–
cerebrovascular disease	0.78	0.43–1.41	0.422	–	–	–
CONUT score (>4)	19.9	10.2–40.7	< 0.001	21.8	10.3–50.2	< 0.001

Interpretation of results

On the basis of the above results, poorly nourished with high CONUT scores are more likely to continue intermittent catheterization, regardless of whether they have cerebrovascular disease, diabetes, or spinal cord disease.

Concluding message

Low nutritional status at admission is associated with poor outcome of underactive bladder.

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I have no conflicts of interest for this presentation.