

# NUTRITIONAL STATUS AMONG ORTHOPAEDIC ONCOLOGY PATIENTS AND ITS RELATIONSHIP WITH POSTOPERATIVE COMPLICATIONS

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## INTRODUCTION:

85% of patients with cancer are affected with malnutrition unknowingly. Various field in oncology had shown malnutrition was linked independently with postoperative complications but there is still lack of study in patients with sarcoma which only constitute only <1% of all adult cancers (1)

## METHODS:

This is a prospective observational study. Patients newly referred to Orthopaedic Oncology Unit and planned for surgery will be interviewed with nutritional questionnaire: Patient-Generated-Subjective-Global-Assessment (PG-SGA), Malnutrition Screening Tool (MST), 3-minutes Nutritional Scoring (3MinNS) that have been validated. Also, anthropometric data BMI, Mid-Upper-Arm-Circumference (MUAC) and blood parameters serum albumin, total lymphocyte count (TLC) and hemoglobin (Hb) were investigated. Patients will be followed up for 3 months. Postoperative complications were divided into infectious and non-infectious group.

## RESULTS:

Low serum albumin (<35g/L) was associated with postoperative infectious complications especially surgical site infection as shown in univariate and multivariate analysis ( $p < 0.001$ ). Low albumin level was also linked with prolonged hospital stay ( $p = 0.009$ ) and unplanned readmission ( $p = 0.017$ ). PG-SGA was predictive of infectious complications while 3MinNS and MUAC both were predictive of both infectious and non-infectious complications in univariate analysis.

	Infectious			Noninfectious		
	OR	95% CI	p	OR	95% CI	p
<b>PGSGA</b> Malnourished (B & C) vs. Normal (A)	13.75	2.898-65.237	*0.001	80773 7329. 9	0 - ∞	0.997
<b>3MinNS</b>	1.69	1.319-2.171	*0.000	1.84	1.372-2.481	*0.000
<b>MUAC</b> Low (≤21 vs Normal >21)	4.75	1.341-16.848	*0.016	5.00	1.313-19.046	*0.018
<b>Albumin</b>	0.82	0.746-0.903	*0.000	0.85	0.777-0.934	*0.001

Table 1.0: Univariate analysis of risk factors for post-operative complications

## DISCUSSIONS:

This is the first pilot study among patients with soft tissue and bone sarcoma of upper and lower limbs. Our result showed that malnutrition itself remained a significant independent factor in relation to both infectious and non-infectious complications and subsequently leads to unplanned readmission and prolonged length of stay. A short nutritional screening tool is valuable during busy clinic session and pre-surgery assessment rounds in order to identify those at risk of malnutrition

## CONCLUSION:

Serial screening during early diagnosis is recommended by PG-SGA or 3MinNS questionnaire, anthropometric measurement of MUAC and serum albumin level.

## REFERENCES:

1. Cross et al. Evaluation of malnutrition in orthopaedic surgery. *J Am Acad Orthop Surg.* 2014;22(3):193-199.