



Hypoalbuminemia In Advanced Stage Cancer Patients: An Experience Of Single Oncology Centre In Rajasthan

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Abstract

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Introduction

Cancer is a state of high physiological stress, with tumor hypoxia ,necrosis and local tissue damage. It frequently affects the nutritional status of patients. In early stages of cancer there is nutritional and functional decline but as the disease progresses albumin levels drop significantly. Serum albumin is closely related with degree of malnutrition. Poor nutritional status is associated with deteriorated quality of life, poor outcome to treatment, increased risk of chemotherapy-induced toxicity and a reduced survival. The serum albumin level is a marker for assessing patient's nutritional status in clinical practice. Low levels of serum albumin is an independent prognostic indicator of survival in various cancers like lung, pancreatic, gastric, colorectal and breast, and with unknown primaries.

In an adult, the normal range of serum albumin is defined as 3.5-5.0 g/dL and levels <3.5 g/dL is called hypoalbuminemia. This study describes to investigate the incidence of hypoalbuminemia in advanced stage cancer patients admitted in oncology ward.

Methods:

The aim of this study was to investigate the incidence of low albumin levels in advanced stage cancer patients.

This retrospective observational study was carried out on biopsy proven cases of solid malignancies, in advanced stage, hospitalized in medical oncology ward at Sri Ram Cancer Centre, Mahatma Gandhi Medical College Jaipur. Information on serum albumin level was collected from the discharge files of the hospital for the patients admitted from January 1, 2022 to August 30, 2022.

The data will be analyzed with MS Excel and SPSS data sheet.

Results : A retrospective observational analysis was performed on 119 patients and subgroups were made according to age, sex, serum albumin levels and type of malignancy.

Three categories of albumin were used to divide patients into marked hypoalbuminemia (<2.5 g/dL), mild hypoalbuminemia (2.5–3.5 g/dL), normal albumin (>3.5) level.

Age was stratified into three classes <50, 50–65, and >65 years. Data was collected for stage III & IV malignancy. The type of malignancy was grouped into four broad categories – Gastrointestinal, Genitourinary, thoracic, head and neck, and others.

Gastrointestinal cancers included cancers of esophagus, stomach, gall bladder, pancreas, small

intestine, colon, anorectum. Genitourinary cancers included cancers of prostate, cervix, endometrium, Ovary and kidney. Thoracic cancers included cancers of breast and lung. Head and neck cancer included malignancies of Pyriform Fossa, tongue, nasopharynx, buccal mucosa. Others included sarcoma and melanomas.

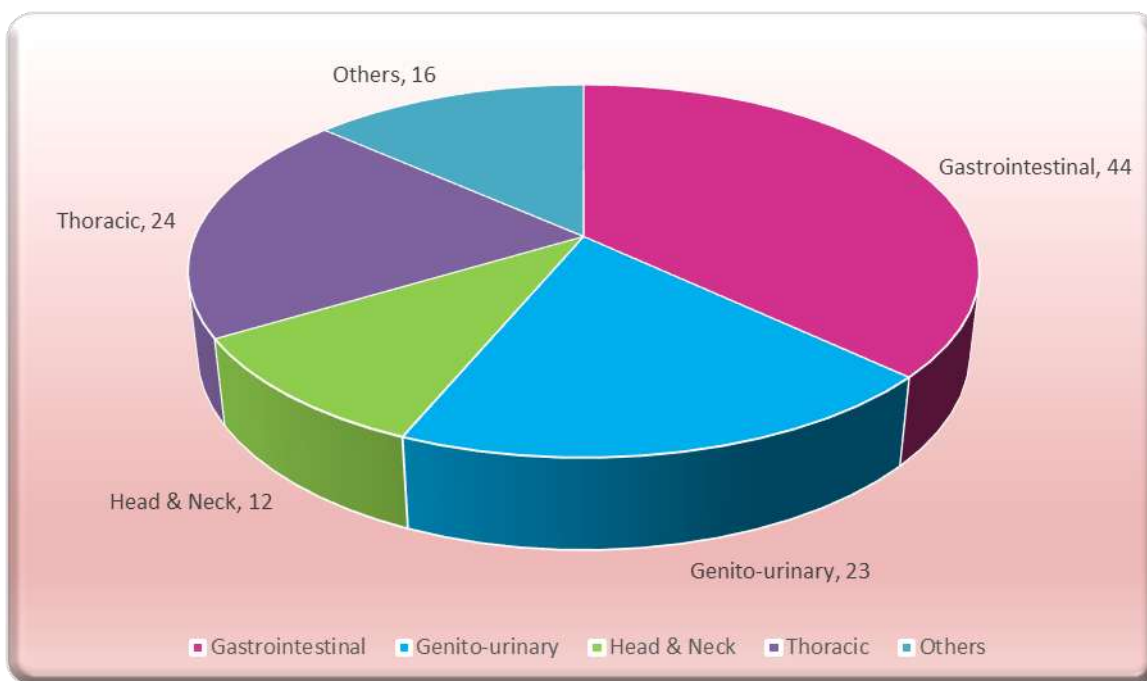
Out of 119 patients analyzed, 57 (48%) were males and 62 (52%) females. Incidence of low albumin levels had no sex difference. 40 (33.6%) patients were in less than 50 yrs age group, 53 (44.5%) patients in 50-65 yrs, and 26(22.9%) cases in >65 yrs.

Of all patients, 71 patients (60%) had moderately low level of albumin and 18 (15.1%) patients had severe

hypoalbuminemia. Normal levels of albumin were seen in 30 (25.2%) patients. Marked hypoalbuminemia seen in 9 (20.5%) cases, had higher incidence in gastrointestinal malignancy and incidence of moderate hypoalbuminemia was higher in genitourinary cancers 15 (65.2%) patients.

In the present case study, most common patient admitted in ward were of gastrointestinal tumors 44(37%) followed by thoracic 24(20%) , genitourinary 23(19%) and head and neck cancers 12(10%). Majority of these cancers were in age group 50-65 yrs except for head and neck and thoracic tumors.

Distribution of cases on the basis of diagnosis, age groups and albumin levels



Type of Cancer	No. of cases n	Age			ALB		
		<50 years n (%)	50-65 years n (%)	> 65 years n (%)	< 2.5 gm/dL n (%)	2.5-3.5 gm/dL n (%)	> 3.5 gm/dL n (%)
Gastrointestinal	44	13 (27.7)	21 (47.7)	10 (21.3)	09 (20.5)	26 (59.0)	09 (20.5)
Genito-urinary	23	04 (17.4)	13 (56.5)	06 (26.1)	03 (13.1)	15 (65.2)	05 (21.7)
Head & Neck	12	06 (50)	05 (41.7)	01 (8.3)	01 (8.3)	07 (58.4)	04 (33.3)

Thoracic	24	12 (50)	07 (29.3)	05 (41.7)	02 (8.3)	13 (54.2)	09 (37.5)
Others	16	05 (31.3)	07 (43.8)	04 (25)	03 (18.75)	10 (62.5)	03 (18.75)

Discussion:

A total of 119 patients were included for analysis who were admitted for supportive management in oncology ward in 8 months

Majority of patients were in age group of 50-65 yrs . No significant variation in mean serum albumin levels observed among different age groups. Incidence of hypoalbuminemia was more pronounced in genitourinary cancers and marked decrease in albumin levels was observed in gastrointestinal cancers.

Conclusion

Low levels of serum albumin are more common in older age group with advanced malignancies of genitourinary and gastrointestinal system.

Limitations of the study were its retrospective nature with limited sample size, basing data medical records, and there is no information regarding the nutritional status of the patients.

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