COMPARISON OF CREATININE INDEX AND GERIATRIC NUTRITIONAL RISK INDEX FOR NUTRITIONAL EVALUATION WITH HEMODIALYSIS PATIENTS

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INTRODUCTION:

Malnutrition is a very common problem in patients receiving haemodialysis mostly related to associated inflammation. Geriatric nutritional risk index (GNRI) and creatinine index (CI) are indexes in patients receiving haemodialysis.

AIM OF THE WORK:

The aim of this work was to assess the risk factors associated with malnutrition in haemodialysis and to assess the creatinine index and geriatric nutritional risk index in elderly for nutritional evaluation in haemodialysis patients.

PATIENTS AND METHODS:

This study was conducted on 50 patients 65 years and older on maintenance haemodialysis. Participants were dialyzed 3 times weekly for more than 3.5 hours per session, using high flux membranes in Damanhur teaching Hospital with evaluation of malnutrition for one year. All subjects were subjected to full history taking, clinical examination and investigations including GNRI and CI.

RESULT:

There is statistically significant lower GNRI in malnourished HD patients (81.79 ± 1.79) than normal nutrition (105.24 ± 6.52) and at risk for malnutrition (97.41 ± 3.10) with p-value <0.001. There is statistically significant lower mini mental state in malnourished HD group compared to normal and at risk for malnutrition HD group with p-value <0.001, with statistically higher percentage of severe cognitive impairment in malnourished group with p-value <0.001. There is statistically significant decrease of Instrumental Activities of Daily Living, Activities of Daily Living, and Get Up Get Test in malnourished group compared to at risk and normal group with p-value <0.001. ROC curve analysis of CI in differentiating cases with normal nutrition from malnutrition cases shows that CI at cut-off value of 12.26 has 60% sensitivity, 58.3% specificity, AUC of 0.522 with p-value <0.817. ROC curve analysis of GNRI in differentiating cases with normal nutrition from malnutrition cases shows that GNRI at cut-off value of 100.51has 86.7% sensitivity, 87.5% specificity, AUC of 0.944 with p-value <0.001.

ROC curve analysis of CI in differentiating cases at risk for malnutrition shows that CI with cut-off value 12.05 has 72.7 % sensitivity, 86.7% specificity, AUC of 0.788 with p-value 0.014. ROC curve analysis of GNRI in differentiating cases at risk for malnutrition shows that GNRI with cut-off value 87.21 has 100% sensitivity, 100% specificity, AUC of 1 with p-value <0.001.

CONCLUSION:

Combining biochemical and anthropometric parameters in nutritional screening in haemodialysis patients gave more reliable results. GNRI had good sensitivity and specificity in determining malnutrition in haemodialysis patients compared with CI.

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