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Predictive power of Random Blood Sugar (RBS) in comparison with the Glycosylated Hemoglobin (HbA1c) for deterioration of kidney functions in patients of diabetes

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Objectives: Diabetes is a chronic disease require lifelong treatment. It is associated with different kind of microvascular and macrovascular complications. One of the common complication is nephropathy i.e deterioration of kidney functions. Random blood sugar and HbA1c are two frequently done investigations in the patient of diabetes and till now there is very sparse data on the basis of which predictability of these parameters for kidney function deterioration can be assessed.

This study was designed to evaluate and compare predictability of random blood sugar and Hb1Ac for deterioration of kidney functions in patients of diabetes.

Methods: A research Assistant visited the Diabetes clinic of the institution. He interacted with the patients and various parameters including sociodemographic variables were filled in the proforma. Latest lab reports were also collected from the patient and values were filled in the proforma. ROC was used to measure the predictability of Random Blood Sugar and HbA1c for deterioration of kidney functions. Blood creatinine was used to measure the deterioration of kidney functions.

Results: Both random blood sugar and HbA1c had poor prediction for the deterioration of kidney functions in patients of diabetes. Area Under Curve (AUC) for HbA1c was 0.588 while Area Under Curve for random blood sugar was 0.651. Area Under Curve for both the parameters were not statistically different.

Conclusions: RBS and HbA1c are poor predictors for deterioration of kidney functions in patient of diabetes and none is superior over other.