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Albumin-to-creatinine ratio in spot urine to diagnose diabetic nephropathy: An evidence-based report

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Statement of the Problem: Diabetic nephropathy is one of global health problem that keep increasing in the recent years. It is one of the common complications of diabetes mellitus and one of the main cause of chronic kidney disease. Golden standard for diabetic nephropathy examination is quantification of albuminuria in 24-hour urine; however, this examin ation is difficult and there are frequent sampling errors. Several studies show that examination using albumin-to-creatinine ratio in spot urine sample could be proposed as another method to diagnose diabetic nephropathy since it is more convenient for the patient. Therefore, the purpose of this study is to find out if the albumin-to-creatinine ratio in spot urine could be used to diagnose diabetic nephropathy.

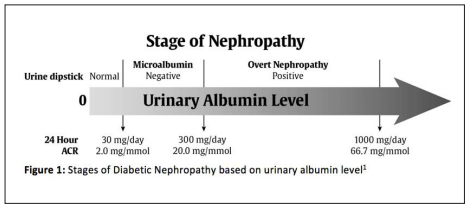

Figure 1: Stages of Diabetic Nephropathy based on urinary albumin level[1]

Methodology & Theoretical Orientation: A structured internet literature search was conducted using 4 databases, PubMed, SCOPUS, Cochrane library and Science Direct. Titles and abstracts were screened using predetermined selection criteria and yield three relevant articles. Selected articles were critically appraised based on its validity, importance and applicability.

Findings: All three journals show that albumin-to-creatinine ratio in spot urine have good sensitivity that is comparable with quantification of albuminuria in 24-hour urine to diagnose diabetic nephropathy.

Conclusion & Significance: Examination using albumin-to-creatinine in spot urine can be used for screening and diagnosis of diabetic nephropathy. Recommendations are made for further study to be done in patient in primary health care as a method to do screening in diabetic patients.

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Biography

Ihsan Azka Adriansyah is a graduated Doctor from Faculty of Medicine, University of Indonesia. His research interest is in nephrology and urology.

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