

Editorial: Comparative Study Of Spot Urine Protein Creatinine Ratio With 24 Hrs Urine Protein

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Proteinuria is known to be related with both kidney work disintegration and cardiovascular diseases. While proteinuria assessment from 24-h urine samples has generally been considered as the standard strategy for appraisal of the level of urinary protein discharge, test assortment is related with a few specialized issues, for example, mistaken assortment and the expected spread of medication safe microbes. In this way, the spot urine protein/creatinine proportion (PCR) appraisal is right now suggested as another option. While the utility of PCR has been approved, concentrates on the relationship between spot urine PCR and 24-h proteinuria (24HP) in patients with constant glomerular nephritis (CGN) and nephrotic disorder (NS) are restricted. This examination expected to assess whether an expected outcome from a spot urine PCR could adequately rough the everyday urine protein discharge sum from a 24-h urine test in patients with immunoglobulin A nephropathy (IgAN), insignificant change infection (MCD), and membranous nephropathy-nephrotic condition (MN-NS).

Proteinuria is a common finding in adults in primary care practice. An algorithmic approach can be used to differentiate benign causes of proteinuria from rarer, more serious disorders. Benign causes include fever, intense activity or exercise, dehydration, emotional stress and acute illness. More serious causes include glomerulonephritis and multiple myeloma. Alkaline, dilute or concentrated urine; gross hematuria; and the presence of mucus, semen or white blood cells can cause a dipstick urinalysis to be falsely positive for protein. Of the three pathophysiologic mechanisms (glomerular, tubular and overflow)

that produce proteinuria, glomerular malfunction is the most common and usually corresponds to a urinary protein excretion of more than 2 g per 24 hours. When a quantitative measurement of urinary protein is needed, most physicians prefer a 24-hour urine specimen. However, the urine protein-to-creatinine ratio performed on a random specimen has many advantages over the 24-hour collection, primarily convenience and possibly accuracy. Most patients evaluated for proteinuria have a benign cause. Patients with proteinuria greater than 2 g per day or in whom the underlying etiology remains unclear after a thorough medical evaluation should be referred to a nephrologist.

Protein estimation in 24 hrs urine is a reference gold standard method for the estimation of proteinuria. However, such timed urine collection is a cumbersome task and inconvenient to patients. It has many disadvantages and is prone to errors due to sample collection. Hence an alternate method for estimating proteinuria is essential [6]. Estimating protein creatinine ratio in spot urine sample, will be a convenient method for estimating the proteinuria which is done by estimating spot urine protein, creatinine and calculating protein creatinine ratio from it. This study is conducted to evaluate the correlation between 24 hrs urine protein and urine Protein Creatinine Ratio (PCR) in spot urine sample and if found comparable the estimation of spot protein creatinine ratio could be adopted as an alternative method for quantification of proteinuria in our clinical lab setting.

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Received: May 06, 2021; **Accepted:** May 21, 2021; **Published:** May 27, 2021

Citation: Nabil Abou Bake (2021) Editorial: Comparative Study Of Spot Urine Protein Creatinine Ratio With 24 Hrs Urine. Clin Med Bio Chem. 7:3.

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Limitations of protein creatinine ratio

1. Variability in the total daily creatinine excretion in and
2. Fluctuations in protein excretion that occur throughout the day (exercise posture) There are many studies which state a relatively high degree of correlation between 24 hr urine protein excretion and protein creatinine ratio in random single voided urine sample in healthy controls and in patients with a variety of kidney disease. But some authors have disapproved it.

Hence the study is designed to evaluate the comparison between 24 hours urine protein and protein creatinine ratio and if proved comparable protein creatinine ratio in a random single voided urine specimen could be adopted routinely in our clinical laboratory.

Why is the 24-hour urine protein test given?

A 24-hour urine protein test is given if you have symptoms of glomerulonephritis or nephrotic syndrome. Other types of kidney disease or other conditions that affect the kidneys are also sufficient reasons to order the test, including:

- uncontrolled diabetes
- high blood pressure
- Lupus
- preeclampsia screening during pregnancy

The 24-hour urine protein test consists of multiple samples of urine taken over a 24-hour period. It's different from a protein-to-creatinine ratio test, which uses just one sample of urine. The 24-hour urine protein test may be given as a follow-up to a positive protein-to-creatinine ratio test.