Dear Editor,

Microscopic Porphyria is a group of diseases characterized by acquired and hereditary defects in heme biosynthesis (1). Acute Intermittent Porphyria (AIP) is the most frequent form among the porphyria group (2). Certain conditions of acute stress such as porphyrinogenic drugs, alcohol intake, low-calorie diet, infections and surgical interventions can cause acute attacks. Long duration of an attack may lead to motor neurological deficit affecting the extremities in particular, respiratory arrest and ultimately to death. Permanent hypertension and impaired renal functions may be evident in these patients (1). Modification of Diet on Renal Disease (MDRD), Cockcroft-Gault (CG) formulas or creatinin clearance rate is used in the evaluation of renal function (3). Although CG and MDRD are recommended to calculate GFR in adults, creatinin clearance measurement (24-hour urine sample) is also suggested in patients who have exceptional dietary intake (vegetarian diet, creatine supplements) or muscle mass (amputation, malnutrition, muscle wasting), and need to start dialysis (4). Although not the first choice of method in measurement of GFR in clinical practice, 99mTc DTPA (Diethylen triamin pentaacetrete) renal scintigraphy may give accurate results especially in case of mild and moderate renal failure, with the advantage that it may be adjusted for weight and height (5). We could successfully measure GFR by 99mTc DTPA renal scintigraphy, in a cachetic with AIP and decreased muscle mass, in whom the GFR could not be evaluated through routine methods.

A 28-year-old female patient followed-up for AIP for 6 years, had experienced 17 porphyria attacks due to frequent urinary tract infections and inappropriate use of drugs. The severity of attacks varied widely from abdominal pain to cardiopulmonary arrest, and the patient had had neurological deficit of upper and lower extremities for the last 2 years. The patient was on atenolol 100mg 2x1/day and amlodipin 10mg 1x1/day treatment for hypertension and biochemical analysis revealed a serum creatinin level of 1,1mg/dl, blood urea nitrogen of 18 mg/dl. The patient had complaints of nocturia and decreased urination.

For this patient with a height of 158 cm, weight of 36 kg and BMI of 14,5 kg/m², CG and MDRD was not suitable for measuring the GFR, thus a 24-hour urine was collected on two consecutive days. Clearance was measured to be 23 ml/min on the first day and 34 ml/min on the second day. Unfortunately, the urine could not be properly collected as the patient was paraplegic.

Due to frequent urinary infections, a urinary catheter could not be inserted and GFR was measured by 99mTc DTPA renal scintigraphy. GFR was calculated to be 28,3 for the left kidney, 26,0ml/min for the right kidney and a total of 54,4 ml/min. No complication that could trigger a porphyria attack was encountered following renal scintigraphy.

Provided that there’s no severe renal failure, we think that 99mTc DTPA renal scintigraphy is an appropriate alternative method for patients with AIP (1). Nevertheless, since no complication developed in our patient following renal scintigraphy, we support the idea that 99mTc DTPA may be safely used in these patients.

Can DTPA Renal Scintigraphy be an Alternative Method to Measure Glomerular Filtration Rate in Patients with Acute Intermittent Porphyria?

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