

## Short Communication

# Personal Communication on Clinical Presentation of Elderly Patients with Type 2 Diabetes Mellitus and Renal Impairment

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Over the years with improvement in Diabetes care and availability of pharmacological agents specifically acting on renin-angiotensin-aldosterone system renal functions in patients with type 2 diabetes are preserved for a lot longer. In our experience of outpatient nephrology clinic, the proportion of patients with renal impairment with causes other than DN has increased.

Diabetic nephropathy (DN) is a clinical syndrome characterized by persistent albuminuria ( $>300$  mg/d or  $>200$   $\mu$ g/min) that is confirmed on 2 or more occasions 3-6 months apart, progressive decline in the glomerular filtration rate (GFR) more than 1ml/min per year, which is the physiological decline of renal function and elevated arterial blood pressure ( $>140/90$  mmHg) [1]. Recently, attention has been called to atypical presentations of diabetes and nephropathy with out of proteinuria. Ekinici et al compared renal biopsy findings in 31 patients (age  $>60$  years old) with type 2 diabetes and estimated glomerular filtration rate (eGFR)  $<60$  mL/min/1.73 m<sup>2</sup>, (mean eGFR 35 mL/min/1.73 m<sup>2</sup>) associated with either normo-, (8 patients 67 $\pm$ 2 years old) micro- (6 patients 69 $\pm$ 2 years old), or macroalbuminuria (17 patients 63 $\pm$ 2 years old). Typical renal structural changes of DN were observed in patients with type 2 diabetes and elevated albuminuria (22 vs 23). By contrast, in normoalbuminuric with renal insufficiency, these changes were seen less frequently (3 vs 8), reflecting greater contributions from aging, hypertension, and arteriosclerosis [2].

In our outpatient nephrology clinic we regularly manage elderly (65-79 years old) or very elderly patients ( $>80$  years old)

with history of type 2 diabetes and renal impairment for over 10 years. Such patients attend our clinic with a moderate renal impairment (eGFR 45-30 mL/min/1.73 m<sup>2</sup>). DN was considered (at the first evaluation) to be the most likely diagnosis in majority of such patients even though their blood glucose levels were within target range and HbA1c was less than 7% (48 mmol/mol). Such patients presented with an abnormally high serum creatinine (1.4-1.8 mg/dL) and serum urea (60-90 mg/dL) levels. They also presented comorbidities such as hypertension, peripheral angiopathy, or cardiac failure and were under prescription which includes ACE, or ACE and diuretics. Urine analysis examination which is important for the confirmation or not of diabetic nephropathy, was negative regarding protein and red blood cells for more than 70% of these patients. Specific gravity, as a measure of urine concentration, was lower than normal ( $1015 \leq$ ). However according to Ian H de Boer "It's important to note that the 'typical' presentation of diabetic kidney disease described in older textbooks and literature may no longer be typical. Patients are presenting with different clinical features than they have in the past". Traditionally, albuminuria — elevated levels of protein in the urine — is thought to be the first sign of damage in diabetic kidney disease. Reduced eGFR — reduced filtration of waste products — is thought to be a later manifestation [3]. In contrast Afkarian M et al, in the serial cross-sectional studies of 6251 adults aged 20 years or older with diabetes mellitus participating in National Health and Nutrition Examination Surveys from 1988 through 2014 report that the overall prevalence of diabetic kidney disease did not change significantly whereas the prevalence of albuminuria declined and the prevalence of reduced eGFR increased, with a decreasing prevalence of albuminuria observed only among adults younger than 65 years and non-Hispanic whites [4]. So

under these circumstances the diagnosis of DN it's not without any problems. Regarding our population it is interesting that the ocular examination was negative for diabetic retinopathy to all patients with negative albuminuria and small cysts were found in both kidneys in renal US examination. Consequently renal biopsy was not performed. During a 5 to 10 year follow up we found that renal function was stable for the majority (60%) of the patients without albuminuria and improvement was observed in some of them. A minimal deterioration of eGFR was observed in a small number of patients. In contrast significant deterioration of renal function was observed among the patients with macro albuminuria and diabetic retinopathy

It's clear so far that an increased number of elderly patients with type 2 diabetes may not have renal failure due to diabetes and their eGFR declination is slower. Additional diseases have

to be checked such as the cystic renal disease and hypertension which seems to be the most common in our population .So these patients may have a prolonged period of better quality of life and the medical consultation should persist towards this point in order to decrease their agony regarding their lives.

## References

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