LETTER TO THE EDITOR

WHAT SHOULD BE THE APPROPRIATE REFERRAL
TO THE NEPHROLOGISTS – DO WE HAVE THE DATA?

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Dear Sir,

The overall prevalence of chronic kidney disease (CKD) with estimated glomerular filtration rate (eGFR) < 60 mL/min per 1.73 m^2 (stage 3) has substantially increased over the last decades and is further growing. On the other hand, it's still a debatable issue whether such population should be referred to the nephrologists given the professional burden of care versus the potential of the preventable complications in advancing CKD stages.

Despite the numerous recommendations proposed none of the early referral practice patterns has been universally adopted. At present, only the eGFR < 30 mL/min per 1.73 m^2 (GFR stage 4) has been accepted with a need for nephrology care. Such patients are prone to a progressive CKD deterioration towards end stage renal disease (ESRD) and associated with higher mortality before or after the commencement of the renal replacement therapy (RRT). Again, the question remains, whether such consequences may be prevented or RRT postponed if nephrology care should have been instituted earlier at CKD stage 3, i.e. about the referral in patients with higher eGFR. According to the current KDIGO guidelines [1], general nephrology care should be provided for CKD patients with urine albumin-to-creatinine ratio (ACR) ≥ 300 mg/g (34 mg/mmol), hematuria, rapid eGFR decline, anemia requiring erythropoietin therapy, abnormalities of bone and mineral metabolism, increased potassium, young patients < 18 years, resistant hypertension, nephrolithiasis and here-

ditary diseases. In diagnosed patients, nephrologists should recommend specific and conventional therapies to slow progression of CKD and prevent adverse outcomes (kidney failure – ESRD, CVD mortality – death). However, it is still debatable whether early nephrology referral for CKD complications such as anemia, hyperphosphatemia, hypertension and CVD, and the associated outcomes of ESRD or mortality would be beneficial for patients in stage 3b–4 given the increased burden of care for nephrologists.

The results from a recent, retrospective, observational study confirmed gradually increased ESRD and mortality risk in a referred cohort CKD stage 3–5 with available follow up (FU) data from the nephrology hospital records. In total, for the median FU of 3 years 14% of patients reached ESRD and 16% died, with most similar incidence of ESRD and death prior to ESRD being in CKD stage 4, around 8% [2].

The baseline data analysis from another observational, prospective multicenter study of patients referred to nephrology with stages 3 and 4 CKD confirmed gradual increase in the morbidity from all CVD with the declining GFR (stage 3a $<$ stage 3b $<$ stage 4). The same pattern was observed for all other complications despite the fact that care has been delivered mainly by nephrologists [3].

The data obtained in a large cohort of prospectively followed CKD patients stage 1–5 exclusively by general practitioners showed

ESRD and the mortality risk was higher only in stages 3b to 5 compared to stage 1–2, but not the CKD stage 3a. However, during the median 7.2 years FU mortality (22.9%) prevailed in comparison with the development of ESRD (1%) in all CKD stages. Anemia and albuminuria as modifiable risk factors significantly predicted either outcome, and the hypertension predicted only the mortality [4].

In addition to the increasing prevalence of CVD events with advanced CKD stages, ESRD and mortality data from the above mentioned studies are in favor of early nephrology referral in order to increase the number of patients reaching ESRD (1 vs. 14%), and reduction of the possibly preventable deaths (16 vs 22%), respectively. Thus, management is to be guided by the CKD stage, but also according to the underlying etiology, the risk of progression and complications of CKD, and the presence of albuminuria with an appropriate treatment, intensity of monitoring and patient's education.

An early referral of CKD patients to nephrology is still underutilized option and mainly in CKD stages 4 + 5, although even in a referred cohort of CKD patients there is an increased risk of dying prior to ESRD development over the stages 3–4.

In conclusion, nephrology referral should be considered for CKD patients at stage 3b because of the significant increase in ESRD and mortality risks observed in majority of the reported studies. On the other hand, the workload for nephrologists seems justifiable because the majority of CKD 3a patients are referred to the primary care physicians. Nevertheless, they should be aware of the specific CKD risk factors (hypertension, anemia, albuminuria, CKD-MBD) associated with greater risk of ESRD and deaths in the advanced CKD stages.

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