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Special article

Reflections on the need for Nephropathology Reference Units☆

Reflexiones sobre la necesidad de Unidades de Referencia de Nefropatología

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Chronic kidney disease (CKD) is an important public health problem that affects between 6%–21% of the population. This disease has a relevant impact on the quality of life of patients and the mortality is high. An adequate care implies a growing need of resources. Patients with CKD that require renal replacement therapy (RRT), represent 0.10.2% of the general population and their care requires 2.5% of the annual health expenditure. For this reason the SEN believes that it is necessary to implement measures to reduce the incidence of kidney disease, reverse or stop its progression, and reduce the mortality associated with this pathology. A fundamental part of these actions will depend on an adequate diagnosis of the etiology of CKD. It is important to highlight that in a high percentage of patients with CKD its etiology is unknown (in a proportion as high as a 50% of CKD on RRT). It is accepted that many of these entities correspond to glomerular diseases, which globally represent the third cause of CKD, and in some age groups (those under 44 years of age) glomerulonephritis represents the most frequent etiology. We know that the progression of kidney disease is not uniform in the different types

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of glomerular disease, so an accurate diagnosis will allow the use of the most appropriate treatment and thus drastically modify its evolution, either by delaying the initiation of dialysis or the need for kidney transplantation.

The renal biopsy constitutes the fundamental tool in the diagnosis of these entities. The complete evaluation of the tissue obtained and to guarantee the correct diagnosis, it is necessary the participation of expert pathologists in kidney disease (nephropathologist) who, through the application of various techniques, will be able to establish the precise diagnosis, make a prognosis recommend the most appropriate treatment options. Kidney transplantation is an area of special importance, where kidney biopsy and its correct evaluation are also essential. Kidney transplantation represents the best TRS option in terms of quality of life, health outcomes and efficiency. It must be stated that the factor that more decisively affects the survival of the renal graft is control of rejection episodes; therefore, rapid diagnosis and proper histological classification (classification of Banff), are essential for an adequate treatment. In this circumstance, the renal biopsy has special relevance, it constitutes the diagnostic test that with the highest degree of reliability allows confirming the presence of a rejection (cellular or humoral) in addition to establishing the possible coexistence of other pathologies in the graft (recurrence of the causative disease or de novo).

In recent years, the socioeconomic situation and the lack of technological renewal, together with the retirement of nephropathologists, have had a negative impact on the possibility of adequate histopathological diagnoses. Thus, in the technological field it is important to refer to electron microscopy (EM), an essential tool for making a correct diagnosis. We currently know that up to 20% of renal pathology could not be diagnosed without the help of EM, and in more than 40% of biopsies it adds highly useful additional information.

Based on these considerations on the complexity of the study of kidney disease, together with the importance of an adequate care of patients with CKD, we believe that it is necessary to reorganize the model of care in our hospitals to provide more efficiently the human and technical resources of the field of Nephropathology. These measures will allow the optimization and completion of the diagnostic process of kidney disease and be able face the healthcare and scientific challenge of improving the health and quality of care that of our population.

Summary

1. CKD has a high incidence and prevalence with a high impact on the quality of life and mortality of patients. This implies a significant consumption of healthcare resources.
2. In a relevant percentage of patients, there is no etiological diagnosis of CKD, which limits the possibilities of treatment and cure.
3. Actions aimed at improving diagnosis will allow a better understanding of the causes of CKD and optimize treatment.
4. Renal biopsy constitutes the necessary procedure for the histopathological study of kidney tissue that allows to make the diagnosis, apply the treatment and stablish the prognosis of kidney damage.
5. Kidney transplantation is the best option of RRT. The most common cause of kidney graft loss is rejection. Renal biopsy is the only method to establish the type of rejection and initiate the most appropriate treatment.
6. The planning of the treatment of kidney disease is established based on an accurate diagnosis and this is based on the histological diagnosis. The lack of an adequate diagnostic interpretation, either due to inexperience of the pathologist, or due to lack of diagnostic tools (electron microscopy), conditions and limits the treatment options to the detriment of the patient.

Proposal

We propose that at the national level, Nephropathology Reference Units be established, which have all the material and human resources necessary to assume and attend to the needs of kidney biopsy of the assigned area. The ultimate goal is reducing the progression of CKD with the maximum guarantees of quality and safety throughout the process. These actions will include all the appropriate circuits for the referral of samples from each of the Nephrology services to these Units, as well as those necessary for sending the diagnostic reports to the requesting services. The creation of a common database would allow the periodic evaluation of the results and the health impact on health of these measures.