



Case Report

Amaurosis as Opening Diagnosis of Secondary Systemic Hypertension and CKD of Nontraditional Causes

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Citation: Samaniego-Segovia B, Rodríguez C, Rizo-Topete L, Sánchez O (2022) Amaurosis as Opening Diagnosis of Secondary Systemic Hypertension and CKD of Nontraditional Causes. J Urol Ren Dis 07: 1268. DOI: 10.29011/2575-7903.001268.

Received Date: 02 May, 2022; **Accepted Date:** 06 May, 2022; **Published Date:** 09 May 2022

Abstract

Tubulointerstitial diseases are some of the causes of chronic kidney disease. The main focus of this presented case report is an example of Chronic Interstitial Nephritis (CIN). The case is about a 43-year-old male patient from Monterrey, México; that presented a hypertensive emergency related to a chronic renal disease (stablished by a number of laboratory tests and a renal ultrasound). After an exhausting evaluation with a series of exams, there was no evident explanation of the origin of this CKD; so as a renal biopsy was realized, CIN was stablished as the final diagnosis. This clinical case demonstrates the need for a comprehensive diagnostic approach in CKD of non-traditional cause. CIN is frequently described in young men, hence the age of presentation and the absence of other possible etiologies will guide the need for renal biopsy for its diagnosis. The following text reviews not only the details of this case, but also some of the most important points of this disease found on the literature.

Introduction

Chronic Kidney Disease (CKD) has presented an increase in its prevalence in the last 30 years [1]. The heat stress, due to global environmental change, and the occupational exposition to toxic agrochemicals, are risk factors that have increased the frequency of non-traditional etiologies of this clinical entity in an increasingly younger population [2]. We present the case of a young male admitted to the Intensive Care Unit (ICU) due to a hypertensive emergency caused by CKD.

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43-year-old male patient from Mexico; with no pathological medical history, who was admitted with a diagnosis of hypertensive emergency characterized by temporary loss of right eye

vision associated with a blood pressure of 227/147 mmHg. Previous medical history of asthenia, dyspnea on exertion, intermittent non-productive cough and progressive edema of the lower limbs in the past 3 months. He was admitted to the ICU for initiation of intravenous nitroglycerin infusion and to start with a diagnostic approach. Laboratories highlighted serum creatinine at 5.19mg / dL (0.7-1.2mg / dL), urea nitrogen (BUN) at 61.5mg / dL (6-20mg / dL) and a BUN / creatinine ratio of 11.8; hemoglobin of 9.9g / dL (14-18g / dL), serum phosphorus of 5mg / dL (2.7-4.4mg / dL), without other alterations. After the resolution of the hypertensive emergency, a diagnostic approach to secondary arterial Hypertension (HTN) was started. The urine test showed proteinuria of 0.56gr / dL. Renovascular hypertension was ruled out by bilateral renal Doppler ultrasound. Pheochromocytoma and hyperaldosteronism were discarded by obtaining normal levels of metanephrines

and aldosterone, respectively. The 24-hour urine creatinine clearance is reported at 24.7ml / hr, making a possible diagnosis of CKD of uncertain cause. A renal biopsy was performed, in which a predominance of glomeruli with global sclerosis, atrophic tubules with thyroidization in more than 50% and an extensive chronic interstitial inflammatory lymphocytic infiltrate was observed; concluding as Chronic Tubulointerstitial Nephritis (CIN) Figure 1. Oral antihypertensive treatment was initiated and the patient was discharge on the sixth day of hospital stay.

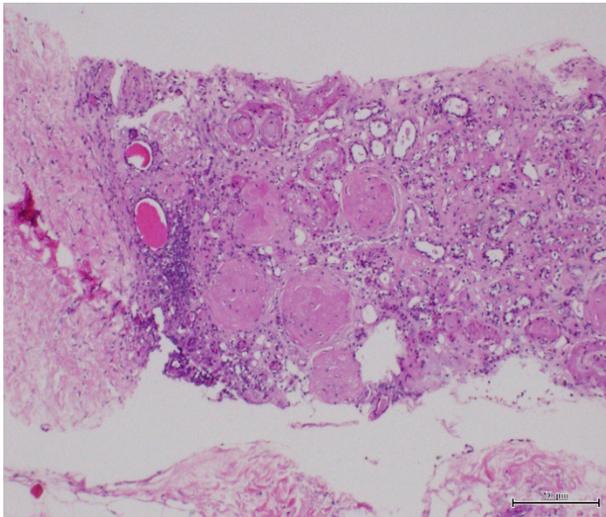


Figure 1: Glomeruli with global sclerosis, atrophic tubules with thyroidization in more than 50% and an extensive chronic interstitial inflammatory lymphocytic infiltrate was observed; concluding as chronic tubulointerstitial nephritis

Discussion

The CKD is an important chronic disease with an increasing relevance in public health. Although some of the main pathological reasons that cause this disease are diabetes, hypertension and some specific renal syndromes (most of them with a high prevalence in the Mexican population), there are some examples of not common causes of CKD; one example of this is the Chronic Interstitial Nephritis (CIN). The CIN affect mainly young men, and it's not linked to other common causes of CKD, just as the case mentioned in the clinical case presented above. [1] Although there are some environmental factors that increase the risk related to CIN, such as exposure to toxic agrochemicals or its ingestion in contaminated food and water; there is no clear risk factor of exposition in the patient of the presented case. Some studies had also shown a relation between recurrent dehydration, being this relatively common among patients from the region were this patient

lives (precisely Monterrey, Mexico), as the climate in this region is most of the time hot; but multiple discussions had shown that this factor is more of a contributing factor (and not the most important risk factor) [3]. In other studies, the average age of the clinical debut is of 51 years, which also is near the patient's age in this clinical case [2]. Also, it's demonstrated that it's more common in male population [4]. Some of the main clinical characteristics of this disease are related to the consequences of the CKD that it generates, for example: nocturia, foamy urine, dysuria, asthenia. Some of the laboratorial findings related to this disease, include typical alterations related to kidney disease; with the possibility of electrolyte alterations [5]. It's important to mention that proteinuria can be present in some cases of this disease, such as the case of the patient; but the proteinuria should not be of proteinuric levels [2]. The histopathological findings of this disease confirm the presence of chronic tubulointerstitial nephropathy, which in most cases help to define the diagnosis among some other possible explanations of this clinical presentation [2], such as sarcoidosis, IgG4 tubulointerstitial disease, and some lymphomas [5].

Conclusion

In patients with no clear diagnosis of CKD, and debutant diagnosis of CKD and HTA the use of kidney biopsy is mandatory, especially after all the other possibilities are excluded. Our patient present an atypical opening diagnosis of CKD even if this presentation is common in patients with hypertensive crisis, but sadly there are a lot of patients with hypertension under diagnosis and by the time they notice the CKD is advanced.

References

1. Jayasumana C, Orantes C, Herrera R, Almaguer M, Lopez L, et al. (2017) Chronic interstitial nephritis in agricultural communities: a worldwide epidemic with social, occupational and environmental determinants. *Nephrol Dial Transplant* 32: 234-241.
2. Herrera Valdés R, Almaguer López M, Orantes Navarro CM, López Marín L, Brizuela Díaz EG, et al. (2020) Chronic interstitial nephritis of nontraditional causes in Salvadoran agricultural communities. *Clin Nephrol* 93: 60-67.
3. Vervaeke BA, Nast CC, Jayasumana C, Schreurs G, Roels F, et al. (2020) Chronic interstitial nephritis in agricultural communities is a toxin-induced proximal tubular nephropathy. *Kidney international* 97: 350-369.
4. Lozier M, Turcios-Ruiz RM, Noonan G, Ordunez P (2016) Chronic kidney disease of nontraditional etiology in Central America: a provisional epidemiologic case definition for surveillance and epidemiologic studies. *Revista panamericana de salud publica = Pan American journal of public health* 40: 294-300.
5. Perazella MA (2017) Clinical approach to diagnosing acute and chronic tubulointerstitial disease. *Adv Chronic Kidney Dis* 24: 57-63.