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NEPHROTIC SYNDROME AS A CLINICAL MANIFESTATION IN IGA NEPHROPATHY. CASE REPORT - NEPHROTIC SYNDROME AS A CLINICAL MANIFESTATION IN IGA NEPHROPATHY. CASE REPORT

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Abstract
Immunoglobulin A (IgA) kidney disease is considered a primary glomerular pathology that occurs most globally. Within its clinical characteristics, micro and macroscopic, recurrent and transient hematuria may occur, in addition, in some asymptomatic cases. The main objective of the article focuses on describing the atypical clinical presentation of IgA nephropathy. The methodology was carried out from a descriptive study, by collecting data provided by the clinical history. Likewise, a data collection was carried out in digital databases such as: PubMed, Science Direct, Elseiver and Scopus, which serve to compare the therapeutic scheme used and the clinical manifestations associated with the pathology. The results obtained showed that an initial search showed a total of 139 articles, of which, after their respective analysis, a total of 15 articles were included. The development of a study or clinical case report is of great relevance to establish diagnostic processes and treatment schemes according to the clinical characteristics of patients with IgA nephropathy and nephrotic syndrome. The clinical picture presented by the patient corresponded to hemoptysis 24 hours ago, accompanied by a sensation of elevated temperature and dyspnea, in addition, proteinuria was observed. Treatment at discharge corresponded to a general diet, hygienic-dietary measures and control of warning signs, losartan, prednisone, simvastatin, furosemide and rivaroxaban.

Keywords: Nephrotic syndrome, nephropathy, IgA, case report.

Introduction

The name as kidney disease by Immunoglobulin A (IgA) or Berger's pathology was used for the first time in 1969 by Berger and Hinglais. It is considered a primary glomerular pathology that occurs most globally. Within its clinical characteristics, micro and macroscopic, recurrent and transient hematuria may occur, in addition, in some cases asymptomatic, with the presence of proteinuria or in the absence

of it, in addition, progressive renal failure may occur during the first two days after the onset of the infectious picture. The incidence is mostly in inhabitants of Asia, since forty-five cases are observed per million individuals per year in Japan.(1,2,3)

Similarly, nephropathy associated with IgA is associated with deposits of this immunoglobulin at the glomerular level and occurs from the presence of blood during the urination process. It is considered as a nephrotic syndrome, that is; A form of chronic glomerulonephritis, which is considered to be the most common form of global glomerulonephritis. (4,5)

Within the sociodemographic characteristics, it can be related to all ages, however, it presents a higher incidence during the stage of adolescence and the stage after thirty years, it is also identified in a frequency of 2-6 times higher in the male sex, white ethnicity and in Asians and in Afro-descendant individuals. The prevalence of IgA deposits at the renal level is five percent in the United States, 10-20% in Europe and Australia, and 30-40% in Asia.(6)

Nephropathy associated with immunoglobulin A is the most frequent type globally, since it can occur in 1.5% of the population worldwide, that is, a total of 2.5 patients per 100,000 inhabitants per year, evidencing greater relevance in male patients aged between 20-30 years (6). It is also more frequent in the population of Asia, where a prevalence of 45 per million individuals is observed. (8)

Several studies carried out in Mexico and Brazil show that at the Latin American level the prevalence of this disease corresponds to 12%. However, in the past it was considered that the evolutionary process associated with immunoglobulin A nephropathy did not present a risk to the integrity of the individual, however, it is currently observed that the disease can have three different prognoses; remission, that is, it can present with a short or long clinical picture, and occurs between 2-5% of individuals, rapid deterioration; It can occur in 5-10% of individuals. Finally, slow and progressive deterioration, the same that can advance to observe a clinical picture associated with chronic renal failure, in which case, it is necessary to develop a therapeutic scheme of renal replacement, the same that can occur in 50% of patients in a period of a decade.(8)(7)(7)

Taking into account the statistical data identified, in addition to observing that in the Ecuadorian context there is not enough research associated with nephropathy due to IgA deposits, the need arises to describe the clinical characteristics and therapeutic scheme in a patient with IGA nephropathy, and in the same way, to contrast the analysis carried out from the clinical case with the bibliographic references that address the problem, in order to find specific similarities and differences.

Taking into consideration that nephropathy associated with IgA has a great diversity of clinical characteristics such as proteinuria or renal failure until its rapid progression and appearance of crescents in the glomerular zone (6,7). It is necessary to know signs and symptoms associated with this pathology in order to establish a clinical diagnosis as at the histological level with effectiveness and efficiency, evaluating the various factors that may be associated in the progress of the disease, such as the presence of arterial presentation, sex, age group, level of proteinuria and percentage of fibrosis at the level of the glomerulus and interstitial space as a result of the biopsy. (7)

Therefore, through the development of clinical case, it is intended to analyze and report a patient diagnosed with nephropathy associated with IgA with nephrotic behavior. This type of pathology only occurs in 10% of the population, therefore, the enhancement of research, providing theoretical and practical bases of the care process, diagnosis and therapeutic scheme, directly benefiting patients with this disease and health professionals associated with the care process.

THEORETICAL FRAMEWORK

Berger's pathology may present secondary to immunoglobulin deposits, such as lupus and liver tissue lesions. This type of nephropathies associated with IgA is related to the presence of blood during urination, or microscopic hematuria continuously, presence of protein in the blood and development of chronic renal failure. (7)

Among the main signs and symptoms associated with nephrotic syndrome are relatively underdiagnosed, that is; between 3-7% of cases. This syndrome is often related to the last stages of the disease, in which there is a deterioration or aging of the glomeruli that are visualized from biopsies

of kidney tissue.(8)

When hematuria occurs frequently, some type of nephropathy should be suspected, especially in the age group of schoolchildren, adolescents and adults over 30 years of age, especially in patients who, in turn, have some respiratory pathology such as tonsillitis. However, it can occur from microscopic presence of blood in the urine, in patients over 40 years, which is diagnosed from a urine test.(9)

The last two conditions occurred during our patient's first biopsy. When pedicle fusion exceeds mesangial proliferation, clinical behavior mimics minimal change disease. In these patients, usually children or young adults, a favorable response of nephrotic syndrome to corticosteroids is observed. The mechanism of this association is unclear, suggesting a casual relationship.(10)

This clinical and histological variability translates into different possible evolutions, which may be asymptomatic, as evidenced by incidental findings at autopsy or in kidney donors, have spontaneous regression or evolve chronically, in some cases leading to end-stage chronic kidney disease. (CKD), usually ten to twenty years after diagnosis. This long-term, sometimes benign course makes therapeutic clinical trials difficult because patients must be monitored for prolonged periods to identify severe forms.(11)

IgA nephropathy is usually discovered when a patient notices blood in the urine. Alternatively, routine tests may reveal the presence of protein or blood in the urine, which may indicate inflammation of the kidneys' small filters called glomeruli. In addition to blood tests, creatinine waste products or cystatin protein levels may also be observed. However, the confirmatory test of this disease corresponds to the biopsy of kidney tissue.(12)

On the other hand, despite all these advances, there are still no specific treatments for IGN and there have not been enough controlled and double-blind studies to indicate the best strategies to treat this disease. Many patients experience a very slow decrease in GFR throughout their disease (1-3 ml/min/year), which makes it very difficult to conduct clinical studies that can answer these questions. (13).

The main objective of the article focuses on describing the atypical clinical presentation of IgA nephropathy, in addition to recognizing the classic symptomatology and the common clinical picture of IgA nephropathy, as well as describing the evolution of the exposed clinical case. On the other hand, it is intended to analyze the treatment options that exist for IgA nephropathy as well as for the patient and finally, to compare the general prognosis of patients with classic presentation of IgA nephropathy with the clinical case exposed.

METHODOLOGY

It was carried out from a descriptive study, through the collection of data provided by the AS400 system, of the Vicente Corral Moscoso Hospital, where all the pertinent information to the clinical case will be obtained, in which it is intended to evaluate from the first instance, the clinical manifestations and therapeutic scheme designed in the patient with nephrotic syndrome associated with nephropathy with IGA. In the same way, it is proposed to collect data in bibliographic sources, which serve to compare the therapeutic scheme used and the clinical manifestations associated with the pathology. Therefore, several articles obtained from a search carried out in different types of digital databases such as: PubMed, Science Direct, Elseiver and Scopus will be reviewed.

DEVELOPMENT OF THE CLINICAL CASE

Current condition of the patient

A 38-year-old male patient, single marital status, high school education, with professional driver occupation, comes from the city of Cuenca, with a date of admission to the hospital on 09/14/2022, is admitted to hospitalization on 02/16/2022, presenting as a history prediabetes, diagnosed thirteen days previously, Covid-19 infection on three occasions with the presence of pneumonia and outpatient treatment. In addition, he presents a functional rhinoplasty a decade ago. It does not refer allergies or habits.

Reason for consultation

He goes to consultation for clinical picture of dry cough, hemoptysis, sensation of thermal rise with an evolutionary picture of ten days, manifests to go to the private doctor, who prescribes cloperastin syrup c / 8 hours, prednisone 20 mg every 12 hours, paracetamol 1000mg c / 8 hours. States that the hemoptysis has occurred 24 hours ago, accompanied by a sensation of thermal rise and dyspnea, so he goes to consultation, where vital signs are controlled; blood pressure of 128/71 mm Hg., heart rate of 85 bpm, respiratory rate of 20 rpm, a temperature of 36.1 ° C, oxygen saturation 93%, weight of 72.1 kg and height 168 centimeters.

Physical exam

2-R: normocephalic, atraumatic. Eyes isocoria, normeractivity to light. Nose nostrils permeable, presence of nasal tips, dry oral mucous mouths, thorax decreased vesicular murmur, raleses at the level of the middle third in the left hemithorax. R1 and R2 tone and intensity conserved synchronous with pulse, not murmurs. Abdomen soft, depressible, not painful on palpation, Rha present. Symmetrical limbs, tone, strength and sensitivity preserved, not edema. Jan vigil, alert, oriented in time space and person. Glasgow 15/15.

Complementary exams

Test results show negative anticytoplasmic antibodies, negative acid-fast bacilli tests, IgG of 5.3 g/L IgE 2202.0 IU/mL. Similarly, it is observed that protein in the urine of 24 hours with a value of 4844.25 mg / L. Finally, the result of the biopsy by puncture determined: IgA nephropathy with podocyte hypertrophy, active tubulo-interstitial nephritis with accentuated regenerative changes in the epithelium, grade I interstitial fibrosis.

Treatment

In relation to in-hospital treatment, soft oral diet was observed, position with elevated headboard 60º, control of signs and oxygen c / 6h, control of water balance, intake and elimination, oxygen by nasal cannula - 2 liters per min. In-hospital pharmacological treatment, sodium chloride 0.9 % 40 ml intravenous c/1h - every hour, paracetamol 1000 mg parenteral/intravenous PRN, amoxicillin and clavulanic acid 1200 mg parenteral/intravenous c/8h for one week, clarithromycin 500 mg PO c/12h, lactulose 65% (3,335g/5ml) 30 ml orally c/12h - twice daily. Sodium chloride 0.9 % - sleeve x 100 ml 300 ml parenteral/intravenous each day, dilution medication enoxaparin 4000 IU parenteral/subcutaneous each day, Ipratropium bromide 2 PUFF inhalation c/8h.

As for the treatment at discharge, general diet, hygienic-dietary measures and control of alarm signs are observed. Drug treatment; Losartan 50 mg VO, prednisone 70 mg VO, simvastatin 20 mg orally, furosemide 40 mg PO after breakfast and lunch, rivaroxaban 15 mg orally twice daily, and then 20 mg PO once.

Evolution

09/19/2022 12:00:00 am: Young patient admitted for respiratory symptoms with a diagnosis of pneumonia by imaging and laboratory To this is added a picture of significant chest pain which would be in the context of bilateral pleural effusion. High suspicion of PET due to elevation of money D with verbal report by imaging. So at the moment he is receiving doses of anticoagulation of enoxaparin, it is added to the previously described picture of hemoptysis of three weeks of evolution that at the moment is ruled out as an etiology tuberculosis by negative AFB, even without defining its etiology for which assessment is requested by pulmonology and otolaryngology. Within the last 72 hours peaks of hypertensive peaks and increased O2 requirements, posing as etiology chest pain without adequate control, so analgesia is modified and diuretic treatment is initiated.

09/20/2022 12:00:00 am: Patient with clinical picture compatible with nephrotic syndrome, which induced hypercoagulability process, due to hypoalbuminemia. The patient presents a probable picture

of nephrotic syndrome, has no cholesterol and triglycerides. Without deterioration of renal function, so we consider it can be a membranous glomerulopathy, the patient at the moment in better general condition, draws attention to high IgE, low IgG with high complement, high lDH, blood cell dyscrasia process is not ruled out. The patient is a candidate for renal biopsy, however, initially we must stabilize the respiratory function, the presence of hematuria is striking, which is not characterized by what we request a new urine test tomorrow 8 am.

09/26/2022 12:00:00 am: Male patient admitted for hemoptysis associated with bronchus injury as a result, at the moment does not present bloody hemoptysis, oppressive chest pain is maintained, antibiotic therapy, lactulose and methylprednisolone are maintained. Standard chest X-ray is performed and presents air bronchogram and signs of consolidation.

1/10/2022 12:00:00 am: A 38-year-old patient who enters the study of a nephrotic syndrome, with improvement of edema and response to diuretics, also presents pulmonary picture cataloged as PET, renal biopsy is performed 24 hours ago, procedure without complications, in addition there is no evidence of bruising, has remained clinically stable.

04/10/2022 12:00:00 am: Patient with diagnoses of bilateral PET, pulmonary infarction under study, nephrotic DS, probable vasculitis, who presents negative ANAS-ANCAS autoimmune panel. A renal biopsy was performed on Friday, September 30, pending results. At the moment he reports no new episodes of hemoptysis, even with supplemental oxygen. Nephrology requests anti-glomerular basement membrane antibodies and prescribes prednisone 70 mg orally in unit dose, home oxygen already processed.

05/10/2022 12:00:00 am: Patient with diagnoses of bilateral PET, pulmonary infarction under study, nephrotic DS, probable vasculitis, who presents negative ANAS-ANCAS autoimmune panel. A renal biopsy was performed on Friday, September 30, pending results. At the moment he reports no new episodes of hemoptysis, patient with good saturation without supplemental oxygen. Nephrology requests anti-glomerular basement membrane antibodies, pending assessment of the results, and prescribes prednisone 70 mg orally unit dose, home oxygen already processed if required, pending discharge.

RESULTS

After the bibliographic study carried out in order to collect scientific information about IgA nephropathy and nephrotic syndrome, taking as inclusion criteria scientific articles, case series type, clinical cases, descriptive studies, systematic and observational reviews, as well as websites of global relevance, present in search engines such as Scielo, Dialnet, Pubmed, Redalyc, taking as keywords "nephropathy", "immunoglobulin A", "nephrotic syndrome", also included studies in English and Spanish, published between 2019 – 2023. Likewise, articles that are not related to human medicine, studies published prior to the established period and in another language were excluded, except for studies of great importance or relevance for comparison. In the initial search, a total of 139 articles were observed, of which, after their respective analysis, a total of 15 were included.

DISCUSSION

The characteristic clinical picture of the patient focused on the presence of hemoptysis 24 hours ago, accompanied by a sensation of thermal rise and dyspnea, in addition, proteinuria is observed. Similarly, the study by Lococo et al. established within his clinical case in a patient with IgA nephropathy, the need to perform a renal biopsy after the identification of proteinuria and red blood cells in the urine, with benign histological presence. Likewise, the study by Forero et al. determined that the initial clinical picture corresponded to hematuria and proteinuria. Similarly, the study by

Fernández et al. established the presence of abnormalities such as hematuria, proteinuria, gross hematuria and respiratory tract infections.(10)(14)(1)

The in-hospital treatment applied to the patient corresponded to diet, control of vital signs, sodium chloride, paracetamol, amoxicillin, clavulanic acid, clarithromycin, lactulose, enoxaparin and ipratropium bromide. On the other hand, the treatment at discharge corresponded to general diet, hygienic-dietary measures and control of alarm signs, losartan, prednisone, simvastatin, furosemide and rivaroxaban. On the other hand, Merino et al. He mentions that the treatment from the application with steroids allows the reduction of proteinuria, however, it is necessary to continue conducting research to verify its use in the treatment. In addition, for Forero et al. The schemes used corresponded to the use of prednisone, prednisone and mycophenolate mofetil.(15)(14)

The prognosis of the patient with IgA nephropathy allowed to demonstrate the efficacy of the treatment applied during the evolutionary process, because no episodes of hemoptysis were reported, with an adequate oxygen saturation level, allowing the patient to be discharged with home medical-pharmacological treatment. Therefore, the study by Merino et al. He determined that, during the evolutionary process, he had a decrease in proteinuria and albuminuria, without changes at the renal level, which were present during the first six and twelve months. (15)

CONCLUSIONS

The development of a study or clinical case report is of great relevance to establish diagnostic processes and treatment schemes according to the clinical characteristics of patients with IgA nephropathy and nephrotic syndrome, since it is a pathology that occurs with little recurrence, globally as in the Ecuadorian context. The clinical picture presented by the patient corresponded to hemoptysis of 24 hours ago, accompanied by a sensation of thermal rise and dyspnea, in addition, proteinuria is observed. In-hospital treatment focused on diet, vital signs monitoring, sodium chloride, paracetamol, amoxicillin, clavulanic acid, clarithromycin, lactulose, enoxaparin and ipratropium bromide. On the other hand, the treatment at discharge corresponded to general diet, hygienic-dietary measures and control of alarm signs, losartan, prednisone, simvastatin, furosemide and rivaroxaban.

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