

One Disease, Two Approaches. Acute Post-Streptococcal Glomerulonephritis – A Case Report of Two Young Patients

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ABSTRACT

Objective: Acute post-streptococcal glomerulonephritis (APSGN) is the most studied immune-mediated glomerulonephritis, being caused by streptococcal infections such as pharyngotonsillitis or skin infections (impetigo, erysipelas). Globally it is the main form of glomerular suffering among pediatric patients, especially between the ages of 3 and 15, but in the developed countries, the incidence of this condition has decreased significantly in the last decades. The majority of the medical literature indicates that the treatment in such a disease is symptomatic (the major goal being controlling of the edema and hypertension) associated with antibiotics for streptococcal infection. Due to some situations where antibiotic treatment cannot be administered, this case report hypothesized that homeopathy is a possible alternative treatment method for conventional therapy. We presented two cases diagnosed with APSGN: a nine-year-old boy treated homeopathically at home and a three-year-old girl treated conventionally during hospitalization. Analyzing the two cases, we observed that the patients were cured regardless of the therapeutic method approached. This aspect has an advantage in situations where there are limitations in the administration of allopathic treatment. According to homeopathic understanding, the success rate is higher when there are clear homeopathic symptoms for choosing the right remedy. Many more cases and much more research is needed to conclude that classical homeopathy can be a treatment option for this pathology. In conclusion, it is important to find a personalized therapy (allopathy or homeopathy) for each patient that will bring the maximum benefit, depending on the particularity of the case

Keywords: Acute Post-Streptococcal Glomerulonephritis, ASPGN, Allopathy, Homeopathy

INTRODUCTION

Hippocrates, considered to be the father of medicine, has taught us since the 4th century BC that the nature of the human body can only be understood if it is viewed as a whole (1).

Classical, conventional medicine, also known as allopathic medicine, is the medicine that defines health as the absence of the disease. Allopathy is the procedure of treating a disease using resources contrary to its symptoms. In allopathic medicine, the main cause of diseases is considered to be bacteria and viruses or biochemical disorders that produce illness in specific organs. In the diagnosis of diseases, scientific tests are used, and drugs and surgery are the key tools in treating health problems (2). Sometimes, conventional treatment is limited due to external factors as multiple allergies, special conditions as pregnancies when some allopathic medicines are contraindicated, the reluctance of some patients as a result of religious beliefs, etc. (3, 4). According to Samuel Hahnemann, homeopathic medicine assumes that the disease is seen as a manifestation of a dysfunction of the whole being and not as an isolated event (5). Homeopathy is the process of treating a disease using resources similar to its symptoms.

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The defense mechanism starts to produce symptoms whenever it's necessary to protect vital organs. Its principle is based on the fact that diseases can be cured by strengthening the body's defense mechanism with substances selected for their energy-giving properties. This principle is the law of similarity (*Similia Similibus Curantur*) (5). Homeopathy uses remedies, selected from herbs, minerals, or chemicals, which would produce, in a healthy body, the same symptoms found in a sick person suffering from the specific disease. However, this original substance is diluted and purified beyond the point of harm to its quintessential state of energy (6). It is stated that matching the patient's symptoms to those of the remedy is vital in choosing the correct remedy (6). Homeopathic treatment assumes to be effective in conditions such as infectious diseases (9, 10), children-related diseases (11-13), apparently in certain types of glomerulonephritis (14). However, homeopathic medicine requires much more research and evidence-based medicine methods to be considered a reliable therapeutic option throughout the world (16, 17).

Acute post-streptococcal glomerulonephritis (APSGN) is immune glomerulonephritis, secondary to streptococcal infection. From the entrance gate, the extracellular antigens of streptococcus enter the circulation and trigger the formation of anti-streptococcal antibodies which react with the antigens and begin the formation of circulating immune complexes that cause characteristic glomerular lesions. These are responsible for the loss of proteins and elements shown in the urine. The main consequence of the histological lesions is the decrease of the glomerular filtrate, without the parallel decrease of the renal blood flow, which causes oliguria and arterial hypertension (15, 18).

The clinical presentation of APSGN varies from a benign asymptomatic or oligosymptomatic condition with an acute nephritic syndrome that shows glomerular impairment (edema, hypertension, oliguria, hematuria, minimal proteinuria, nitrogen retention) to rapidly progressive glomerulonephritis requiring dialysis (19). The treatment is mainly supportive, as there is no specific therapy for renal injury. Symptomatic therapy is considered regarding the severity of the illness. For edema and hypertension, diuretics are commonly used (20). Antibacterial treatment is usually given where there is evidence of a still active (pharyngeal) infection, and also for controlling local symptoms and limiting dissemination to contacts (to sterilize any outbreaks) (20). The antibacterial treatment is recommended for ten days with Penicillin or another antibiotic with anti-streptococcal action such as Erythromycin, Amoxicillin with Clavulanic Acid, Clarithromycin, Cefuroxime, Cephalexin (20). Corticosteroid treatment is indicated only in rapidly progressive forms (20, 23). Homeopathic treatment may be considered as an alternative treatment method in the specific situations mentioned above when conventional treatment cannot be administered.

Considering the principles of conventional and homeopathic therapy and the recommended treatment for APSGN I hypothesized that homeopathy is a possible treatment method for conventional therapy.

To demonstrate the hypothesis, we will examine the degree of the disturbance of the general state (fully favorable/unfavorable condition both physically, mentally, and socially) and the presence or the absence of the symptoms belonging to the nephritic syndrome (edema, oliguria, cola-colored urine, and the values of hypertension) (22). Edema represents the swelling caused by excess fluid stuck in the tissues of the body (32). Oliguria means the quantity of urine output that is less than 0.5 mL/kg/h in children and less than 400 mL daily (33). Hematuria, also known as cola-colored urine, refers to the presence of blood in the urine, either visible (macroscopic) or non-visible (microscopic) (30). Hypertension is a medical condition in which the blood pressure in the arteries is elevated, the normal range for children until 16 years old being under 90 percentiles for height, weight, and sex (29).

Additionally, I will present the laboratory investigations that are the most useful in APSGN assessment. They include tests to provide evidence of preceding streptococcal infection, renal function tests, serologic studies, and urine analyzes (21).

Evidence of a preceding streptococcal infection is determined by measuring antistreptolysin titer (ASO), antibodies that are usually elevated after both pharyngitis and skin infections. The antibody titers may elevate at one week, following a possible rising to a peak at one month, and decrease toward pre-infection levels after several months (21). Kidney function tests include blood urea nitrogen (BUN) and serum creatinine values that are typically elevated during the acute phase reflecting the decrease in the glomerular filtration rate. The elevations are usually transient (22). Serology studies find low serum complement (C3) levels indicating an antigen-antibody interaction. C3 is consumed in the inflammatory reaction. Its values return to normal in 6-8 weeks. Occasionally, low complement levels persist for three months (22). Urine analysis shows both macroscopic and/or microscopic hematuria and mild proteinuria. Proteinuria in APSGN represents the presence of an increased level of protein in the urine, the values being lower than three g/L/24 hours in the nephritic syndrome. Hematuria usually disappears within 3-6 months but may persist as long as 18 months. Proteinuria may persist until six months. However, there can be found an increase in the urinary protein excretion even after three years from the debut of the disease in 15% of the cases and also ten years after the debut in 2% of the cases (21, 31).

MATERIAL and METHODS

I performed a prospective clinical study carried out while shadowing a physician in Romania.

The study included two cases of children, one male, another female who were clinically diagnosed with edema, oliguria, cola-colored urine, and hypertension to whom the final diagnosis of APSGN was established. The boy was treated at home and the girl was treated at the hospital.

I searched the variables that could describe the evolution of the disease in those two cases.

studied: the degree of the disturbance of the general state (fully favorable/unfavorable condition both physically, mentally, and socially), the presence or the absence of the symptoms belonging to the nephritic syndrome (edema, oliguria, cola-colored urine, and the values of hypertension), the laboratory tests (complete urine examination, blood urea, ASO titers, serum complement), and the time interval between the initiation of the therapy until the normalization of clinical signs and laboratory parameters. A detailed history enlisting the presenting complaints, history of present illness, personal history, and treatment history were studied.

RESULTS

Here are two cases diagnosed with APSGN: a nine-year-old boy and a three-year-old girl. The girl was treated conventionally during hospitalization, and the boy was treated homeopathically at home. These cases were studied while shadowing a physician, and they belong to the caseload of the clinic.

First case:

The 9-year-old male patient presented with a generalized altered condition, headache, high blood pressure, dyspnea, and low back pain. Besides, he presented non-medical characteristic symptoms, useful for the homeopathic diagnosis: the patient was not thirsty at all, patient was warm-blooded, during his sleep patient uncovered his feet, constantly asked for ice cream, patient sought the attention of his mother and liked to be caressed and cried quickly. In the past, he frequently developed respiratory infections, including otitis and bronchitis. After treating those infections conventionally, he developed a severe form of atopic dermatitis for five years, which was also treated conventionally. Moreover, he was allergic to almost all antibiotics (penicillin, macrolides, and cephalosporins), dust mites, mold, pollen, and particularly to chlorinated water. At the physical exam, the patient presented significant periorbital and facial edema, pale skin, high blood pressure (170/120 mmHg), oliguria (200 ml/day) with macroscopic hematuria.

Laboratory tests confirmed hematuria, minimal proteinuria, elevated ASO, low level of C3, and elevated level of BUM. The APSGN diagnosis was established based on clinical and laboratory data (Table 1).

Because the patient had multiple allergies and due to a clear picture for a homeopathic remedy, his parents consented that he would receive homeopathic treatment. He was administered Pulsatilla 200 ch two times per day, for five days. Thirty-six hours after the medication was given, the patient was sweating, blood pressure decreased to 120/70 and lumbar pain diminished. On the third day, blood pressure normalized and after five days, macroscopic hematuria was improved, the headache and lumbar pain disappeared, and the edema decreased significantly along with the decrease of proteinuria from 200 mg/dl to 30 mg/dl and which was negative at fifteen days after onset. The urine test revealed only microscopic hematuria after two weeks which also disappeared until the sixth week after onset and remained negative at fourth-month control. Also, the C3 consumption normalized six weeks after the onset (Table 1)

Second case:

The 3-year-old female patient was brought by her parents for macroscopic hematuria and minimal palpebral edema. She had a good general condition. She did not present oliguria, high blood pressure, or any non-medical symptoms which could be part of a homeopathic diagnosis. Patient did not have any relevant family history and her personal medical history, by then, consisted of two episodes of gastroenteritis. Physical exam pointed out minimal palpebral edema. Laboratory tests found hematuria, elevated ASO, and C3 consumption (Table 2).

After the diagnosis of APSGN was established she was administered Penicillin throughout the hospitalization, which lasted ten days. Macroscopic hematuria normalized after two weeks, and microscopic hematuria disappeared after four months after the onset of the disease. The minimal proteinuria disappeared at six weeks. Also, C3 consumption normalized after six weeks (Table 2).

Table 1. Laboratory tests of the first patient, presented at the onset and in the evolution of the disease.

Lab Test	Normal Range	Values Onset	Values 2 weeks after Onset	Values 6 weeks after Onset	Values 16 weeks after Onset
ASO (UI/ml)	0-200	1483	1447	300	110
C3 (mg/dl)	90-180	42	80	100	110
Hematuria (no./ul)	0	250	50	0	0
Proteinuria (no./ul)	0	200	10	0	0

Table 2. Laboratory tests of the second patient presented at the onset and in the evolution of the disease.

Lab Test	Normal Range	Values Onset	Values 2 weeks after Onset	Values 6 weeks after Onset	Values 16 weeks after Onset
ASO (UI/ml)	0-200	607	590	185	70
C3 (mg/dl)	90-180	28	65	85	110
Hematuria (no./ul)	0	300	100	10	0
Proteinuria (no./ul)	0	30	30	0	0

DISCUSSION

Through these two cases, we wanted to show that personalized therapy should be considered when treating a patient. The cases reported had favorable evolution as long as the treatment modality was judiciously chosen, depending on the particularity of the case. Our results indicate that the APSGN could be treated not only allopathically but also homeopathically, the healing occurring in both situations.

In the two cases presented, the evolution of the C3 complement and proteinuria values during each chosen treatment followed the same pattern of gradual reduction (Fig. 1, 2).

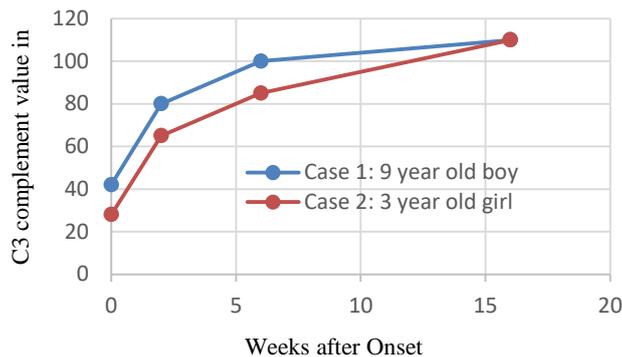


Figure 1: Evolution of C3 complement in the two cases presented throughout the disease

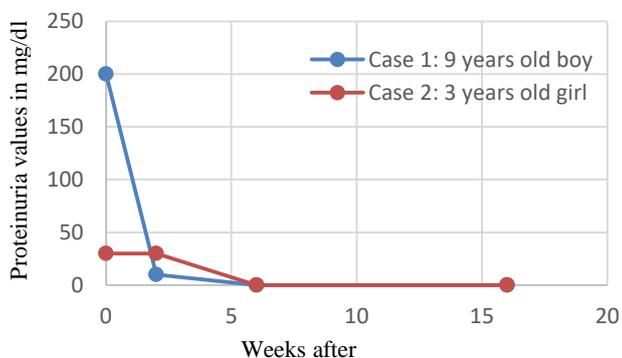


Figure 2: Proteinuria evolution in the two cases presented throughout the disease

Regarding the hypocomplementemia, the data obtained from this study resonates with the literature as the C3 complement returns to normal after 6 weeks (21). Although the curves for proteinuria decreased similarly in both cases during the therapy, I would remark the evolution in the male patient's case where the decline took place from a higher level, close to the superior limit of the nephritic syndrome from 2g/L/day to 0.3 g/L/day in the third day. The difference between the evolution of proteinuria in the first 6 weeks after the onset and the medical literature, which states that the proteinuria may persist until 6 months cannot be taken into consideration because of the poor number of considered subjects in my study (21).

The distinction between the curves of hematuria in each case could be explained through the different presentations for each patient and the particular treatment used (fig. 3).

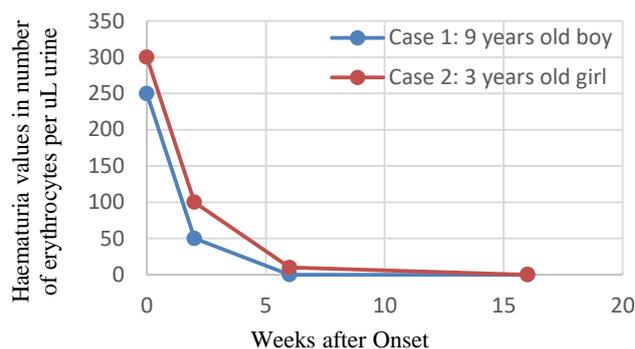


Figure 3: Evolution of Hematuria in the two cases presented throughout the disease

Hematuria is a sensitive indicator of renal injury. The presence of an oligosymptomatic presentation in the female patient's case confirms the minor histological renal lesion. The presence of oliguria and arterial hypertension along with important edema and proteinuria in the male patient's case certify more significant histopathological destructions (28). Accordingly, the remission of hematuria in the second case (male patient) where the kidney was more affected should have occurred later than in the girl's case where the renal damages were minor, but in the studied cases, it happened the contrary. We could assume that the particular homeopathic treatment for a 9-year boy was efficient. A peculiarity of this case report is choosing an unconventional homeopathic therapy for treating APSGN.

During the homeopathic interview, good observation of both the physician and the patient is one of the keys to solving the case (7). When the patient or the parent observes and knows very well his particular symptoms, general symptoms, or preferences, it is in his favor to be diagnosed correctly, according to that information. The result would be an accurate treatment and therefore a positive change in evolution. That was the case of the nine years old boy. As a result of the personal history of allergies, it was decided an alternative therapy with the parent's consent. The physician observed a gentle, timid boy who was crying easily and sought his mother's consolation. Starting with the observation, she asked for particular supplemental homeopathic symptoms: the little boy was not thirsty at all, he was warm-blooded, in sleep he uncovered his feet, he constantly asked for ice cream. Pulsatilla seemed to be the perfect remedy for the boy because it covered the totality of the symptoms (15). Pulsatilla nigricans is a homeopathic remedy derived from the windflower. The mother tincture is prepared from the inflorescent whole plant. Higher potencies are prepared from the mother tincture (24). Its active principles are potassium sulfate, anemonic acid, oil of anemone, anemone camphor, isoanemonic acid, and saponin (26). According to the homeopathic levels of health, the boy belonged to the superior hierarchy (as the picture of the remedy appears so clear), and according to this, healing was established quicker (7, 8). This observation was sustained by the shorter period required for normalizing the urine test including microscopic hematuria that clarified six weeks after onset. Another

peculiar aspect essential to be mentioned was that despite the more severe acute nephritic syndrome (significant edema, high blood pressure, dyspnea, severe oliguria with hematuria), the boy recovered very well using homeopathic treatment. That means that his defense mechanism strengthened by the homeopathic treatment was strong enough to bring back the homeostasis, recovering the favorable general state, normalizing the blood pressure, and ceasing the edema five days after onset and urinary symptoms in the first month. (25).

On the contrary, the efficacy of the treatment may not be directly proportional to the chosen therapeutic method. There are certain studies that conclude the placebo effect in regard to homeopathic treatment (27). Thereby, the necessity of inclusion of homeopathy in evidence-based medicine will decide if this is a viable therapeutic treatment.

Analyzing the two cases, we observed that the patients were cured regardless of the therapeutic method approached. Therefore, alternative treatments, as the homeopathic ones, could be considered for diseases, especially in situations where allopathic treatment is limited or unsuccessful (e.g.: multiple allergies, special conditions as pregnancy when some allopathic medicines are contraindicated, or the reluctance of some patients to take particular drugs) (3, 4).

CONCLUSION

In conclusion, it is important to find a personalized therapy (allopathic or homeopathic) for each patient that will bring the maximum benefit, depending on the particularity of the case. Although we observed the healing of one patient using homeopathic therapy in APSGN, there are not many pieces of evidence of APSGN treated homeopathically, so many more cases and much more research are needed to conclude that classical homeopathy can be a treatment option for this pathology.

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