

## Case Report



# A Case Report of Nephrotic Syndrome with Anasarca

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### Abstract:

Nephrotic syndrome is a condition characterized by Proteinuria, Hypoalbuminemia, Edema, Hyperlipidemia. Nephrotic syndrome is caused by damaged to the clusters of small blood vessels in the kidney that filter waste products and the excessive water from the blood. A 35-year-old male patient admitted in the general medicine ward with chief complaints of swelling over the face, hand and then whole body from 5 years. While there are several more common causes of nephrotic syndrome in adults. If patient can take proper medication they can decrease the edema and improve their condition.

**Keywords:** Nephrotic syndrome, Anasarca, edema, proteinuria, Hyperlipidaemia

### Introduction:

Nephrotic syndrome is a condition characterized by Proteinuria, Hypoalbuminemia, Edema, Hyperlipidemia<sup>(1)</sup>. There are numerous causes of nephrotic syndrome, but they all share the same pathophysiology. A glomerular filtration barrier defect causes a massive loss of protein in the urine<sup>(2)</sup>. Men are more likely than women to be affected by nephrotic syndrome<sup>(3)</sup>. Some patients with nephrotic syndrome may exhibit nephritic symptoms (hypertension, hematuria, and decreased kidney function). Similarly, patients with nephritic disease may exhibit nephrotic symptoms<sup>(4)</sup>. The excellent response to corticosteroids in most MCD patients, corticosteroids are now used as a first-line treatment in most children with nephrotic syndrome, unless clinical or laboratory findings indicate a different cause<sup>(1)</sup>. Minimal change disease (MCD) is the most common cause of nephrotic syndrome in children, accounting for

more than 90% of cases in children over the age of one year. MCD is the cause of 10% to 15% of cases of nephrotic syndrome in adults, with a higher prevalence in older patients<sup>(5)</sup>. Edema, particularly in the lower extremities, is the most common presenting symptom of nephrotic syndrome. Patients can develop edema involving the sacrum, genitalia, abdomen, and proximal lower extremity as the disease progresses, or even at the start. Anasarca can also occur. Pleural effusions and periorbital edoema are two other findings that can occur due to low oncotic pressure, though the latter is less common in adults. Even in the early stages of the disease, generalised fatigue and exertional dyspnea may be present. Muehrcke lines (narrow white transverse lines) on the nails can be caused by a low albumin level<sup>(6)</sup>. MCD, primary and secondary membranous nephropathy, and FSGS are the primary causes of nephrotic syndrome. Diabetes mellitus, lupus nephritis, amyloidosis, and

multiple myeloma are all secondary causes of nephrotic syndrome. MCD is the most common nephrotic syndrome in children, the diagnosis is made based on the clinical picture. Unless patients do not respond to glucocorticoid therapy, a kidney biopsy is not performed. MCD has been linked to nonsteroidal anti-inflammatory drug use, Hodgkin's lymphoma, and lithium use in adults<sup>(7)</sup>. A low sodium diet should be followed by all patients with nephrotic syndrome and CKD. Patients should currently consume less than 2400 mg of sodium per day, with hypertension recommendations of less than 1500 mg/d. This recommendation differs greatly from the typical American diet, which contains more than 4000 mg of sodium per day. Patients can meet this goal by increasing their intake of fruits and vegetables and adhering to the Dietary Approaches to Stop Hypertension Diet<sup>(8)</sup>.

#### **Case Report:**

A 35-year-old male patient admitted in the general medicine ward with chief complaints of swelling over the face, hand and then whole body from 5 years. History of present illness is he was alright 5 years back when he develops swelling first on the face and then the whole body. Past medication history, he was taking prednisolone which is prescribed by physician 5 year back when he developed swelling on the face. Laboratory investigation of biochemistry analysis was found to be s.creatine(0.62 mg/dl), s.potassium(3.36 mmol/l), s.albumin(2.2 g/dl), s.total protein( 4.7 g/dl), s.bilirubin indirect (0.12 mg/dl). His HDL cholesterol was found to be (72.77 mg/dl), direct LDL cholesterol(315.13 mg/dl), total cholesterol(417.7 mg/dl) and 24-hr urine protein is found to be ( on day 1- 239 mg/dl and on day-2 1872 mg/dl). Other blood investigations are lymphocytes(18.3%), TRBC(4.41 millions/cumm), MCV(101.6FL), MCH(32.5pg). Based on medical history and clinical examination our diagnosis was anasarca with nephrotic syndrome. The patient was treated under the expert guidance of a physician with injection proton pump inhibitor pantoprazole 40 mg once in a day for 5 days. Tablet ramipril 2.5 mg once in a day for 5 days. Tablet calcium+vit D<sub>3</sub> once in a day for 5 days and tablet rosuvastatin 20

mg once in a day for 4 days followed by 5 mg once in a day for 5 days. Treatment is based on patient age, body weight, and severity. Follow up after 5 days of therapy.

#### **Discussion:**

The rate of incidence of nephrotic syndrome in adult worldwide is 3 per 100,000 adult. Nephrotic syndrome is a kidney disorder that causes your body to pass too much protein in the urine. Nephrotic syndrome is caused by damaged to the clusters of small blood vessels in the kidney that filter waste products and the excessive water from the blood. In that condition causes swelling, particularly in feet and ankles, and increased the risk of health problems. Treatment for nephrotic syndrome and anasarca includes treating the condition that's causing it and taking medication. The patient was a 35-year-old male who came to the hospital with chief complaints of swelling over the face, hand and then whole body. A patient will receive care from a team of health professionals, including physician, clinical pharmacist, and nursing staff. After getting proper care from the physician his condition was better and swelling decreases. A patient has to take medication properly as prescribed by the physician. And follow up for the next therapy after 5 days. His care taker were counseled properly to take care of him and do suggested medication routinely for more improvement.

#### **Conclusion:**

While there are several more common causes of nephrotic syndrome in adults. Our study reports that swelling over the face, hand and then whole body will decrease after proper medication. Therefore, the care taker must be aware of medication for this patient and help them to improve in their condition.

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**Conflict Of Interest:** None

## References:

- 1.) Lombel RM, Gipson DS, Hodson EM, Kidney Disease: Improving Global Outcomes. Treatment of steroid-sensitive nephrotic syndrome: new guidelines from KDIGO. *Pediatr Nephrol* [Internet]. 2013;28(3):415–26. Available from: <http://dx.doi.org/10.1007/s00467-012-2310-x>
- 2.) Eddy AA, Symons JM. Nephrotic syndrome in childhood. *Lancet* [Internet]. 2003;362(9384):629–39. Available from: [http://dx.doi.org/10.1016/S0140-6736\(03\)14184-0](http://dx.doi.org/10.1016/S0140-6736(03)14184-0)
- 3.) O’Shaughnessy MM, Hogan SL, Thompson BD, Coppo R, Fogo AB, Jennette JC. Glomerular disease frequencies by race, sex and region: results from the International Kidney Biopsy Survey. *Nephrol Dial Transplant* [Internet]. 2018;33(4):661–9. Available from: <http://dx.doi.org/10.1093/ndt/gfx189>
- 4.) Mariani LH, Pendergraft WF 3rd, Kretzler M. Defining glomerular disease in mechanistic terms: Implementing an integrative biology approach in nephrology. *Clin J Am Soc Nephrol* [Internet]. 2016;11(11):2054–60. Available from: <http://dx.doi.org/10.2215/CJN.13651215>
- 5.) Vivarelli M, Massella L, Ruggiero B, Emma F. Minimal change disease. *Clin J Am Soc Nephrol* [Internet]. 2017;12(2):332–45. Available from: <http://dx.doi.org/10.2215/cjn.05000516>
- 6.) Mirrakhimov AE, Ali AM, Barbaryan A, Prueksaritanond S, Hussain N. Primary nephrotic syndrome in adults as a risk factor for pulmonary embolism: An up-to-date review of the literature. *Int J Nephrol* [Internet]. 2014;2014:916760. Available from: <http://dx.doi.org/10.1155/2014/916760>
- 7.) Couser WG. Primary membranous nephropathy. *Clin J Am Soc Nephrol* [Internet]. 2017;12(6):983–97. Available from: <http://dx.doi.org/10.2215/cjn.11761116>
- 8.) CDC - Salt Home - DHDSP. 2019. Available at: <https://www.cdc.gov/salt>. Accessed December 25, 2019