- Decreased volume
- Frothy

The diagnosis of MCNS is suspected on the basis of the history and clinical manifestations (edema, proteinuria, hypoalbuminemia, and hypercholesterolemia in the absence of hematuria and hypertension) in children between 2 and 8 years old. The hallmark of MCNS is massive proteinuria (higher than 2+ on urine dipstick). Hyaline casts, oval fat bodies, and a few red blood cells (RBCs) can be found in the urine of some affected children, although there is seldom gross hematuria. The GFR is usually normal or high. Kidney function must be monitored, however, because acute kidney injury (AKI) may occur due to intravascular volume depletion, interstitial nephritis, acute tubular necrosis or other factors (Rheault, Wei, Hains, et al, 2014).

Total serum protein concentration is low, with the serum albumin significantly reduced and plasma lipids elevated. Hemoglobin and hematocrit are usually normal or elevated as a result of hemoconcentration. The platelet count may be elevated. Serum sodium concentration may be low. If the patient does not respond to an 8-week course of daily steroids, a renal biopsy may be needed to distinguish among other types of nephrotic syndrome. The biopsy results of children with MCNS are remarkable for effacement of the foot processes of the epithelial cells lining the basement membrane, but otherwise the kidney tissue is normal.

Therapeutic Management

Objectives of therapeutic management include (1) reducing excretion of urinary protein, (2) reducing fluid retention in the tissues, (3) preventing infection, and (4) minimizing complications related to therapies. Dietary restrictions include a low-salt diet and, in more severe cases, fluid restriction. If complications of edema develop, diuretic therapy may be initiated to provide temporary relief from edema. Sometimes infusions of 25% albumin are used. Acute infections are treated with appropriate antibiotics.

Corticosteroids are the first line of therapy for MCNS. The starting dosage for prednisone is usually 2 mg/kg body weight/day