# Glomerulopathy manifested by nephrotic syndrome

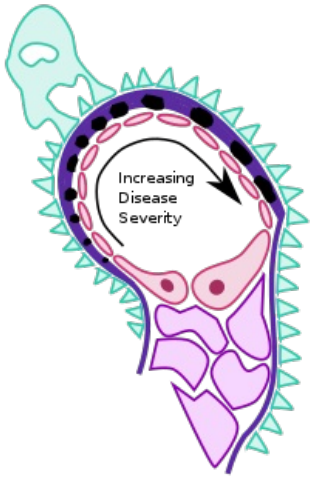
This group of diseases is mainly manifested by proteinuria or nephrotic syndrome, which includes proteinuria, generalized edema, hyperlipidemia, and hypoalbuminemia.

# Minimal Change Disease

Minimal Change Disease

# Membranous glomerulopathy

*Membranous glomerulonephritis* (MGN; also *membranous nephropathy*, MN) mainly affects middle-aged or older adults. Most often (70-80% of cases) it is a primary idiopathic autoimmune disease, 20-30% of the disease is secondary to infectious, tumor, systemic autoimmune diseases or after the administration of certain drugs[1]. MGN is the most common cause of nephrotic syndrome in adults (20-40%), more common in men.



Membranous GN (diagram)

**Microscopically** we find a diffuse thickening of the glomerular capillary wall caused by the deposition of immunocomplexes into the subepithelial space (between the podocytes and the basement membrane).

## Etiology

**Idiopathic (primary) form of MGN (most common)**

Most diseases of this group are associated with the formation of autoantibodies against the M-type receptor for phospholipase $A_2$ (PLA2R). Some polymorphisms of the PLA2R gene in combination with some HLA-DQA1[1] polymorphisms are associated with a high risk of this form of the disease.

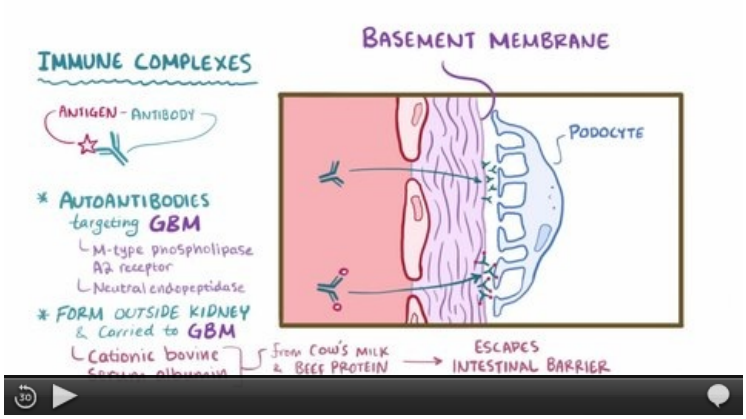
**Secondary form of MGN (20-30%)**

- infections (viral hepatitis B and C),
- tumors (lung cancer, prostate cancer, hematological malignancies[2]),
- systemic autoimmune diseases (SLE),
- drugs (penicillamine, gold preparations, captopril, NSA).

## Clinical picture

Clinical manifestations may be unremarkable.

- sudden appearance of DKK swellings + their progression
- non-selective proteinuria + erythrocyturia, often fully developed **nephrotic syndrome**
- arterial hypertension (20-40%)
- impairment of renal function (at the time of dg. in 5-10%)



Video in english, definition, pathogenesis, symptoms, complications, treatment.

## Therapy

- *Idiopathic MGN:* corticoids, cyclophosphamide, chlorambucil, cyclosporine,

- *secondary MGN:* stop precipitating drugs / treat primary disease.

## Prognosis

- The fundamental importance of influencing the formation of immunocomplexes,
- with successful therapy, nephrotic syndrome may disappear,
- many years stationary or developing CKD.

# Kidney amyloidosis

Kidney amyloidosis

## Links

### Related Articles

- Glomerulopathy
- Glomerulonephritis: Acute glomerulonephritis • Rapidly progressive glomerulonephritis • Chronic glomerulonephritis
- Nephrotic syndrome
- Amyloidosis
- Kidneys
- Diabetic nephropathy

### References


- PROMOTED, Ctibor. *Special Pathology. 2nd part.* 3. edition. Prague : Karolinum, 2004. ISBN 80-7184-484-5.
- TEPLAN, Vladimir. *Nephrology minimum for clinical practice.* 1. edition. Prague : Mladá fronta, 2013. ISBN 978-80-204-2881-3.
- CHILD, P.. *Internal medicine.* 2. edition. Prague : Galen, 2007. ISBN 978-80-7262-496-6.
- RED, Romana. *Secondary glomerulonephritis* [lecture for subject Nephrology, specialization General medicine, 1.LF Charles University in Prague]. Prague. 2011-01-07.

1. FLOEGE, Jürgen – AMANN, Kerstin. Primary glomerulonephritides. *The Lancet.* 2016, y. 10032, vol. 387, p. 2036-2048, ISSN 0140-6736. DOI: 10.1016/s0140-6736(16)00272-5 (http://dx.doi.org/10.1016%2Fs0140-6736%2816%2900272-5).
2. LEEAPHORN, Napat – KUE-A-PAI, Pogsathorn – THAMCHAROEN, Natanong. Prevalence of Cancer in Membranous Nephropathy: A Systematic Review and Meta-Analysis of Observational Studies. *American Journal of Nephrology.* 2014, y. 1, vol. 40, p. 29-35, ISSN 1421-9670. DOI: 10.1159/000364782 (http://dx.doi.org/10.1159%2F000364782).