

Focal segmental glomerulosclerosis

As the name suggests, it is a **chronic progressive involvement of some segments of the glomeruli of the kidney by the process of glomerulosclerosis**. The abbreviation **FSGS** is often used. It belongs to glomerulopathies manifested by proteinuria or nephrotic syndrome. The disease typically occurs in children. Failure to respond to corticosteroid treatment is characteristic. However, the disease is not rare even in adults, especially as a result of another disease. The diagnosis of FSGS is also used as a morphological description of focal segmental damage in other diseases.

Detailed breakdown of the name of the disease:

- focal = involvement of some glomeruli
- segmental = involvement of the given segment of the glomerulus
- glomerulosclerosis = thickening and scarring filtration membranes of the glomerulus

Morphology

Podocytes are affected by glomerulosclerosis. These can peel off and the exposed section of the glomerular basement membrane is a predisposing site for the development of sclerosis. This is followed by capillary collapse and mesangial expansion. Damage to the glomerulus results in tubule atrophy and interstitial fibrosis.

Etiology

1. **idiopathic** - The cause is not entirely clear, an unknown toxic factor is considered. In recent years, anti-nephrin antibodies have been widely suspected. Then it would be an autoimmune disease.
2. **hereditary** - Genetically conditioned mutations for filter membrane proteins (e.g. podocin, nephrin) can be the cause of FSGS.
3. **consequence of chronic diseases** - Focal segmental glomerulosclerosis can be considered a morphological finding rather than a pathology. This morphological finding may be the result of advanced diseases in which the kidneys are overloaded.
4. **other** - due to autoimmune diseases (e.g. SLE), HIV infection, drug use (heroin, cocaine), urinary reflux

Diagnostics

The basic examination is the determination of protein in the urine. Another method is **biopsy**. During it, however, due to the focal nature of the disease, a healthy section of the kidney can be removed, so the disease may not be detected. When hereditary etiology is suspected, a genetic examination is performed.

Prognosis

It depends a lot on the cause, so it cannot be easily determined.

References

- ZÁMEČNÍK, Josef, ed. Pathology. Volume 2. Prague: LD Prager Publishing, 2019. ISBN 978-80-270-6457-1.