Summary of Nephrotic Syndrome

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Nephrotic Syndrome	Minimal change disease.MCD (known as lipoid nephrosis)	Focal segmental GS Similar to MCD	Membranous glomerulopathy/GN
Occurs in	children	Older children and adult	adult
Character but not specific	Effacement of epithelial cell (podocyte) foot processes	Effacement of epithelial cell (podocyte) foot processes	Deposit of immune complex in subepithelium zone of glomerular capillary (immune complex disease)
LM	1) Normal glomeruli. 2) Cytoplasm of PCT cells are heavily laden with protein droplet and lipid. 3) No tubular atrophy or interstitial fibrosis.	1) Glomeruli of juxtamedullary area are affected. 2) Some glomeruli are involved (focal). 3) Focal and segmental sclerosis of glomeruli. 4) Adhesion and hyalinosis.	1) Thickened of capillary wall. 2) Deposit separated by glomerular basement membrane matrix (spikes). 3) At progresses there is fibrosis and sclerosis.
IF	Negative for Ig and C.	Negative, sometimes IgM is positive.	IgG and C3 is positive.
EM	Diffuse/fusion/effacement of epithelial cell for (podocyte) foot processes.	Patchy effacement of epithelial cell (podocyte) for processes.	1) The immune complex deposits in the subepithelial space with intervening basement membrane spikes. 2) Effacement of epitheial cell podocyte. 3) Microvillous formation.

Name of disease	Diabetic nephropathy	Renal amyloidosis	Lipus nephropathy
LM	1) Diffuse glomerulosclerosis a) Thickness of capillary wall b) Diffuse mesengial matrix & cells 2) Nodular sclerosis (kimmelstiel Wilson nodules) a) Nodule formation in mesengium. b) Spherical eosinophil. c) Central cellular area.	It can: 1) Primary →idiopathic 2) Secondary → associated with: a) Inflammatory disease (rheumatoid arthritis) b) Plasma cell disorder (myeloma)	It is show: 1) Active lesion: a) Endo/extra capillary proliferative (crescent). b) Inflammation. c) Fibrinoid necrosis. d) Subendothelial deposit. 2) Chronic: a) Glomerular sclerosis. b) Tubular atrophy. c) Interstitial fibrosis.
EM	1) Thickness of GBM. 2) Arterial hyaline deposits.	Criss-crossing non-branching fibrils.	
General Notes	End result id scarred non-functioning kidney.		Immune complex mediated disease. Deposit of anti-DNA in glomeruli →lead to glomerular necrosis.