Amyloidosis

- Mechanism
  - accumulation of fibrillar proteins that form insoluble β-pleated sheets in organs producing progressive organ dysfunction
- S/S
  - General (F and weight loss)
  - Renal (Proteinuria to Nephrotic Syndrome)
  - Cardiac (Restrictive/Dilated CM, decreased QRS amplitude, conduction abnormalities)
  - GI (motility problems, D, malabsorption, protein loss, ulceration, hemorrhage, obstruction, macroglossia resulting in dysphonia and dysphagia)
  - Neuro (peripheral neuropathy w/ painful paresthesia, autonomic neuropathy w/ impotence, dysmotiliy, hypotension, Carpel Tunnel Syndrome)
  - Cutaneous (purpura around eyes aka racoon eyes)
  - Endocrine (deposition w/ rare hormonal insufficiency)
  - MS (arthralgia and arthritis, weakness, skeletal muscle psuedohypertrophy w/ "shoulder pad sign")
  - Pulm (airway obstruction)
  - Heme (Factor X deficiency, hepatosplenomegaly usually w/o dysfunction/pancytopenia)
- Dx
  - abdominal SC fat pad aspiration, rectal Bx, BM Bx, or specific affected organ Bx which has apple-green birefringence on Congo red stain (NB H&E stains appear pink) under polarizing light microscopy, under regular light microscopy they appear just amorphous, under EM they look like rigid non-branching fibrils of a width of 10nm but variable length
  - S/UPEP
  - EKG (decreased voltage and conduction abnormalities)
  - TEE (biventricular thickening w/ "granular sparkling" appearance)
  - genetic testing (NB important to differentiate AL from other forms of amyloidosis b/c AL can be treated)
- Tx
  - below and transplant of affected organs
  - colchicine
  - eprodisate
  - new: monoclonal ab, oligomer blockade
- Prognosis
  - ~12-18mo much less if cardiac involvement which is the most common cause of death

Amyloidosis Type	Amyloid Type	Precursor	Causes	Primary Organ System Affected (in order of incidence)	Treatment
Primary (most common w/ median survival of 12-18mo)	AL/H	L/H (Light or Heavy chain of monoclonal Ig)	Plasma Cell Dyscrasias	Renal Cardiac Neuro GI Cutaneous MS Pulm Heme	Tx plasma cell dyscrasia (unlike other amyloidoses treatment is very helpful therefore correct classification is imperative)
Secondary	AA	SAA (Serum Associated Amyloid) APR produced during inflammation	Chronic Infections (osteomyelitis, TB, empyema, leprosy), Chronic Inflammation (RA, IBD, FMF), Cancer (renal, HD)	Renal GI (liver/spleen) Neuro Cutaneous	Treat Underlying Dz
Hereditary	ATTR	TTR (Transthyretin)	Mutant Proteins or Normal Proteins 2/2 Aging	Neuro (polyneuropathy, autonomic problems) Cardiac GI (liver)	Liver Transplant b/c TTR is produced by liver
Senile	Ab	ABBP (Amyloid Beta Protein Precursor)	Alzheimer's	Cardiac GI	
Dialysis Associated	$A\beta_2M$	Aβ2-M (Amyloid beta-2-Microglobulin)	Long Term Dialysis pts b/2 β2-M is normally renally excreted	MS	

Adult Still's Disease

- S/S: (refer below)
- Dx: clinical
    - Major Criteria
        - Fever ≥39°C >1wk
        - Arthralgia/Arthritis >2wks
        - Maculopapular nonpruritic salmon-pink eruptions over trunk and extremities that is evanescent occurring during febrile episodes
        - Leukocytosis w/ >80% granulocytes
    - Minor Criteria
        - Sore Throat
        - LAD or HSM
        - Elevated LFTs
        - Negative ANA and RF
    - Exclusions
        - NO infections esp mono and parvo B19
        - NO malignancy esp lymphoma
        - NO rheumatic diseases es PAN and SLE
    - Other
        - High Ferritin
        - Serositis
        - Myalgias
- Course: variable from self-limited to intermittent to chronic
- Tx: NSAIDs, steroids, other immunomodulatory agents

Retroperitoneal Fibrosis

- Etiology: unknown but has been associated with specific meds (ergot alkaloids and bromocriptine)
- Mechanism: inflammatory response w/in retroperitoneal fat resulting in fibrosis and subsequent compression of retroperitoneal structures
- S/S: constitutional symptoms, flank ab pain, obstructive uropathy
- Dx: MRI (periarotic fibrosis, hydronephrosis), Bx (to distinguish from neoplastic process)
- Tx: surgical LOA, steroids, azathioprine
- Prognosis: variable from spontaneous remission to severe disease

Relapsing PolyChondritis (RPC)

- Etiology: unknown but there is some HLA associations but not familial, often (~1/3) coexisting autoimmune diseases esp systemic vasculitis, RA, SLE, Sjogren's, IBD, Graves, etc and other diseases like MDS, etc
- Epidemiology: white adults
- Mechanism: inflammatory response against cartilaginous structures including ear, eye, nose, airway, joints but can also eventually affect practically any other organ esp heart, kidney, CNS, skin (NB can also p/w FUO)
- S/S: acute vs sub-acute, often misdiagnosed as infection, 1° auricular inflammation which over time can create "floppy ear", "saddle nose" deformity, tracheobronchomalacia w/ recurrent infections, 2° auditory canal dysfxn w/ variable Sx, epi-scleritis, uveitis, etc, vasculitis skin lesions, parasternal arthritis, aortic/mitral valve regurgitation, pericarditis, heart block, etc, CN neuropathies, CNS vasculitis, etc
- Dx: (1) ≥3 McAdam's Criteria ≥3: bilateral auricle chondritis, seronegative infl polyarthritis, nasal chondritis, ocular inflammation, resp tract chondritis, cochlear/vestibular dysfxn, (2) 1-2 McAdam's Criteria and 1+Bx, (3) ≥2+Bx w/ response to Tx below (NB auricle Bx is easiest, elevates APRs, usually all over auto-immune labs negative) CT chest can localize cartilage inflammation
- Tx: no great clinical trials and thus Tx is largely empiric/anecdotal, good response w/ 1° Dapsone/Glucocorticoids 2° various other immunomodulators