Autoimmune Polyglandular Syndromes (APS)

A group of disorders whose clinical manifestations are the result of an autoimmune destruction of usually several endocrine (and sometimes non-endocrine) glands.

Types:

- APS-1
- APS-2 (Schmidt syndrome)
- X-linked polyendocrinopathy, immune dysfunction, and diarrhea syndrome
- POEMS syndrome (Plasma cell dyscrasia, Organomegally, Endocrinopathy, M-protein in plasma and Skin changes)
- Kearns-Sayer syndrome (hypoparathyroidism, hypopit, DM, primary gonadal failure and ophthalmoplegia)
- Wolfram syndrome (DI, DM, bilateral optic atrophy, sensorineural deafness, AKA:DIDMOAD)
- Trisomy 21

APS-1: -AKA autoimmune polyendocrinopathy, candidiasis, ectodermal dystrophy (APECED)
-Triad of clinical features (often present in the order listed below):
1. mucocutaneous candidiasis
2. autoimmune hypoparathyroidism
3. Addison’s disease
-Diagnosis is with chronic recurrence of 2 or more of triad above OR 1 of above and affected sibling
-Rare autosomal recessive disorder, usually manifesting in infancy or childhood w/ candidiasis
-Other not so common manifestations:
- keratoconjunctivitis
- hepatitis
- flashing erythema with fever
- diarrhea
- alopecia
- pernicious anemia
-Increased prevalence among Iranian Jews, Finnish and Sardinian people
-Syndrome now known to be caused by any of a number of mutations (nonsense or frameshift) in the AIRE (autoimmune regulator) gene on chromosome 21
-AIRE encodes a transcription factor
-Pts w/ AIRE mutations at risk to develop DM-1, hypothyroidism, pernicious anemia, vitiligo, diarrhea
-Current treatment is for each component of syndrome
-Monitor pts closely for complications of polyendocrinopathy

APS-2: -Schmidt syndrome
-Diversity of endocrinopathies involved (as well as other organ involvement):
- Addison’s disease
- Grave’s disease
- DM-1
- primary hypogonadism
- myasthenia gravis
- celiac disease
-Diagnosis is with chronic recurrence of 2 or more of endocrinopathies above
-typically adult onset, female preponderance and linkage to HLA-DR3 and DR4
-much more common than APS-1
-genetically complex w/ variable disease expression within families
-Current treatment is like APS-1

References:
Williams Textbook of Endocrinology. 9th ed. 1651-62.