Erdheim Chester Disease Overview

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With Deference to Experts having more experience and the “Consensus Guidelines” article in BLOOD 2014
First Described 1930
Jakob Erdheim and William Chester

- Multiple organ systems involved
- Histologic pattern characteristic but need clinical correlations
- Mutated BRAF-V600E in 50-100% of patients- depending on test
- New therapies hold promise of improved outcomes
- International cooperation has fostered several important discoveries
How Does ECD Present?

- Fevers, night sweats, fatigue
- Double vision, pain behind eyes
- Cough, difficulty breathing, especially lying down
- Bone pain
- Lipid deposits under skin, other rashes
- Increased thirst and urination, breast development in males, decreased libido
- Trouble with balance, walking, speech, thinking
- Depression, inappropriate behavior
Frequency of Clinical Presentations

Clinical Findings

- CNS
- Bone pain
- Xanthelasma
- Exophthalmos
- Diabetes insipidus
Frequency of Radiographic Findings

B Radiographic Abnormalities

- Osteosclerosis in femurs and tibia
- Perinephric stranding ("hairy kidney")
- Periaortic infiltration
- Lung parenchyma
- Pericardial thickening or effusion
- Retroperitoneal fibrosis-like infiltrate
- Infiltration of entire thoracoabdominal aorta ("coated aorta")
Typical Bone Radiologic Findings
Histology of ECD
ECD Cells Make Inflammatory Proteins

- Interferon-alpha (Ifn-α): causes pain, fever, decreased blood counts
- IL-12: increases Ifn-α
- IL-1: Target for Anakinra
- MCP-1: attracts histiocytes to a lesion.
Categorizing Patients by Most Severely Affected Organ System

- No Symptoms
  Mostly Skin
  Bone lesions +/- pain

- Patients with symptoms
  CNS
  Cardiac
  Retroperitoneal
  Orbital-craniofacial
  Neuroendocrine
  Pulmonary
  Multi-system
What is BRAF?
Treatment Options

- Clinical Trials
  - Vemurafenib (Anti-BRAF V600E)
  - Tocilizumab (Anti-IL-6)
  - Sirolimus and prednisone (Anti-RAS muta.)

- “Standard of Care” or First Line
  Pegylated-Interferon alpha
  “Regular” Interferon alpha
  Anakinra

- Second Line
  Cladribine (2-CdA)
  Imatinib (Gleevec)
  INfliximab
Thank you

Questions?