WHAT IS ECD?

- A rare multi-system, non-Langerhans Cell histiocytosis of unknown cause that usually affects adults.
- Recent findings suggest a clonal disorder, marked by recurrent BRAFV600E mutations in more than 50% of patients, with chronic uncontrolled inflammation as an important mediator of disease pathogenesis.
- Characterized by excessive production and accumulation of macrophages (histiocytes) within multiple tissues and organs. As a result the tissue becomes thickened, dense and fibrotic.
- Virtually every organ can be involved (long bones, skin, retroorbital space, lungs, brain, pituitary gland, kidney, retroperitoneum, heart, pericardium and more rarely other organs). Each patient can have a different combination of organs affected.

The material in this publication is meant for awareness purposes only. Please send any comments or corrections to support@erdheim-chester.org.

In Loving Memory of
F. Gary Brewer, Col. USAF, Ed.D.
and
In Honor of
All Those Who Suffer from ECD

Researchers interested in investigating the cause or treatment of ECD are encouraged to contact the organization about possible grant opportunities.

For more information, please see www.erdheim-chester.org.

To donate, please send checks to:
The ECD Global Alliance
P.O. Box 775
DeRidder, LA 70634 USA

July, 2014

Erdheim-Chester Disease

A rare multi-system histiocytic syndrome

Informational Guide
Physicians

ERDHEIM-CHESTER DISEASE
ECD
GLOBAL ALLIANCE

A 501(c)(3) non-profit patient advocacy organization supporting those affected by ECD

SYMPTOMS

Symptoms vary, depending upon the organ(s) involved. Common symptoms may include:

- Bilateral bone pain in legs and knees
- General symptoms of weight loss; fever; night sweats; muscle and joint aches; feeling of discomfort, weakness, and fatigue (malaise); flu-like symptoms that linger or continue to return
- Excessive thirst and urination (diabetes insipidus)
- Balance issues, difficulty walking (ataxia), slurred speech (dysarthria), involuntary, rapid eye movements (nystagmus)
- Lower back, flank or abdominal pain, often associated with kidney and/or ureter involvement (retroperitoneal fibrosis); reduced kidney function
- Bulging of the eye (exophthalmos) and/or vision issues
- Sore or bump under the skin (xanthomas), rash
- Shortness of breath (dyspnea)

Each patient will have a different combination of symptoms, making diagnosis difficult.

SIGNS

Depending on organ involvement, some of the following signs may be found:

- Bilateral symmetric medullary sclerosis with cortical thickening and coarsened trabecular pattern of the long tubular bones of the extremities
- Moderate anemia, increased creatinine, increased C-reactive protein and erythrocyte sedimentation rate
- Retroperitoneal thickening with possible hydronephrosis, “hairy kidney”
- Interstitial lung disease involving accumulations of histiocytic cells and fibrosis in a predominantly perilymphangitic and subpleural pattern
- Soft tissue masses and/or lesions
- Pericarditis, “Coated Aorta” or other cardiovascular abnormalities

DIAGNOSIS

- Tissue biopsy-clusters of lipid-laden, foamy histiocytes with signs of chronic inflammation and Touton type giant cells, fibrosis and possible fat necrosis
- Histiocytes-CD68 positive, CD1a negative and without Birbeck granules. S-100 staining is typically negative, but some cells in the lesions may be positive
- Bone scan-symmetrical and abnormally increased uptake of the radiotracer in the distal ends of the long bones of the lower (and sometimes also upper) limbs

TREATMENTS

Therapeutic option under clinical trials include:

- BRAF & MEK kinase inhibitors (vemurafenib, dabrafenib and trametinib)

Therapeutic options used off-label based on anecdotal experience include:

- Immunotherapy (interferon)
- Chemotherapy (cladribine, clofarabine)
- Autoimmune treating drugs (Anakinra, Actemra, methotrexate, Remicade)
- Immunosuppressants (Rapamune, cellcept, imurane)
- Steroids (e.g., prednisone)
- Surgery to remove tumors and parts of tumors

CLINICAL MANAGEMENT

- FDG-PET should be performed every 3-6 months until stabilized
- Organ-specific imaging of affected organs every 3 months until stabilized
- Monitoring of Vitamin B12 & E, and hormones to include testosterone, ADH, thyroid functions, insulin, ACTH and PTH
- Initiation of rehab (PT, OT and ST) as warranted
- Currently most treatment is recommended indefinitely as tolerated
- Urine based detection and monitoring of BRAF V600E mutational tumor load