Comprehensive Review of Adult T-Cell Leukemia-Lymphoma

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PURPOSE

- Highlight the common imaging presentations in patients with Adult T-cell Leukemia-Lymphoma (ATL)
- Review specific cases emphasizing the wider range of imaging manifestations of ATL throughout the body
- Identify important imaging findings associated with disease complications and treatment

BACKGROUND

- Rare aggressive peripheral T-cell malignancy associated with the HTLV1 Virus (0.5-3.5% lifetime risk for infected individual) that develops over long latency period
- Most prevalent in southern Japan, Caribbean basin, Africa and Brazil
- Four subtypes: acute, lymphoma, chronic and smoldering
- Overall survival is poor especially in aggressive subtypes (acute and lymphoma)

IMAGING

- Pulmonary – atypical lymphocytic infiltration into peribronchovascular interstitium and alveoli with resulting interlobar septal thickening, nodules, ground glass opacities and pleural effusion
- Musculoskeletal – infiltration, cortical lytic lesions, metaphyseal lucent lines and pathologic fractures
- Lymphatic – hepatosplenomegaly and generalized lymphadenopathy
- GI/GU/Peritoneum – renal and hepatic lesions, gastric lesions associated with H. Pylori
- Cutaneous – plaque-like lesions, scabies and herpes zoster (often radiographically occult and diagnosed on clinical grounds)
- Complications/Treatment
  - Infections, hemorrhage
  - Surveillance with CT and PET (osseous resolution with chemotherapy noted)

MAJOR TEACHING POINTS

- ATL is a rare peripheral T-cell malignancy with varied imaging appearances throughout the body
- ATL related complications include infections and hemorrhage and disease monitoring can be performed with CT and PET

REFERENCES