CME 14

Bone & Joint Committee / International Association for the Study of Pain (IASP)

Wednesday, October 16, 10:00-11:30

Session Title

The Diagnosis is Complex Regional Pain Syndrome I (CRPS-I a.k.a. Reflex Sympathetic Dystrophy). Or is it?

Chairpersons

Frédéric Paycha (Paris, France)
Roger Atkins (Bristol, United Kingdom / IASP)

Programme

10:00 - 10:30 Roger Atkins (Bristol, United Kingdom / IASP): Contemporary Consensus and Controversies in Diagnosis and Management of CRPS-I

10:30 - 11:00 Frédéric Paycha (Paris, France): Role for Imaging in Diagnosis and Management of CRPS-I

11:00 - 11:30 Edmond Rust (Mulhouse, France): Role for Imaging in Alternate Diagnoses Usually Confused with CRPS-I

Educational Objectives

1. To provide meaningful evidence-based pathophysiology update on CRPS-I
2. To sum up diagnostic gains and shortcomings of Budapest revised criteria for CRPS-I
3. To enlight which joints may be truly involved/jeopardized by CRPS-I (acral joints?, proximal (rhizomelic) joints? What has become CRPS-I of the hip? Intermediary joint: knee?)
4. To untangle special cases: post-hemiplegia CRPS-I?, so-called (Steinbrocker) shoulder-hand syndrome?, post-orthopedic surgery CRPS-I? Is shoulder adhesive capsulitis still belonging to CRPS-I spectrum?
5. To derive key differentials gamuts of CRPS-I, according to disordered joint
6. To delineate relevant scenarios when a clinical diagnosis of CRPS-I shifts to a scintigraphic diagnosis

Summary

Complex regional pain syndrome type I (CRPS-I) is a highly painful, limb-confined condition, which typically arises after an inciting event (trauma, surgery). It is associated with a particularly poor quality of life, and large healthcare and societal costs.
CRPS-I is a multifactorial disorder which includes limb-confined inflammation and tissue hypoxia, sympathetic dysregulation, small fibre damage, serum autoantibodies, central sensitization and cortical reorganization. These features place CRPS-I at a crossroads of interests of several disciplines including rheumatology, pain medicine and neurology. Because CRPS-I lacks specific pathologic or biochemical markers, an explicit and accurate clinical definition is necessary.

The New IASP Budapest clinical criteria for CRPS-I, although very sensitive, lack adequate specificity and can lead to overdiagnosis. In Europe, progress in diagnosis and management is further hampered by significant heterogeneity in clinical practice.
Suspicion of CRPS-I in adult is a frequent indication of bone scintigraphy in everyday practice of European Nuclear Medicine departments.
Bone scintigraphy is often prescribed when CRPS-I is spontaneously developing, involving a proximal joint, the clinical presentation is atypical, an arduous differential diagnosis is at stake, and a medico-legal issue is to be addressed.
Semiological pattern of planar bone scan usually proves distinctive for CRPS-I. However, bone SPECT-CT modality plays a foremost role in reorienting towards a differential diagnosis with accuracy and interreader agreement significantly more prominent in comparison with planar images.
This specificity gain of bone SPECT-CT is preeminent inasmuch as most routine bone scan findings militate against a CRPS-I and often properly reorient towards an unsuspected alternative skeletal condition.

Key Words

Complex regional pain syndrome type I (CRPS-I)

CRPS-I Budapest criteria

Plain X-rays

(99mTc)-bisphosphonates planar bone scintigraphy

(99mTc)-bisphosphonates SPECT-CT

MRI

CRPS-I imaging patterns