From the Book:

Chronic Pain: Reflex Sympathetic Dystrophy Prevention and Management

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DIFFERENTIAL DIAGNOSIS OF RSD

DISEASES MISTAKEN FOR RSD

1. Scleroderma. Thermography helps differentiate it from RSD. Thermography shows clearly the delineated line of demarkation between cold fingers and warm palm of the hand in scleroderma. This is in contrast to the glove type of cold extremity in RSD, a selective nerve involvement in nerve root injures.

2. Occlusive peripheral arterial disease. Doppler ultrasound studies as well as absence of peripheral pulse are helpful in differentiating this condition from RSD.

3. Spinal cord tumors, syringomelia, and contusion of spinal cord are almost invariably associated with RSD. In so-called idiopathic RSD, the above conditions need to be ruled out.

4. Raynaud's syndrome (Raynaud, 1862) is vascular dysfunction of the extremities, which is usually benign. This prognostic feature separates it from more severe forms of RSD.

The condition is a good example of the central origin of sympathetic dysfunction. The local vasoconstrictor reflex that is absent in peripheral nerve damages such as diabetic neuropathy stays intact in Raynaud's phenomenon. On the other hand, vasoconstrictive responses to sitting or standing are increased in Raynaud's phenomenon.

In our experience with 26 consecutive cases of Raynaud's phenomenon, migraine headache was a concomitant complication in 17 patients. This high incidence of migraine headaches also suggest a central origin of the vascular dysfunction.

RSD MISTAKEN FOR OTHER DISEASES

One aspect of efferent dysfunction of RSD is spasm in the shoulder girdle muscles, pectoralis muscles, and scalenus muscles. The latter group of muscles undergoing spasm cause the clinical picture of thoracic outlet syndrome.

1. Thoracic outlet syndrome. As is the case with cervical disc herniation, cervical nerve roots contusion, cervical spondylosis, and soft tissue injuries to the cervical spine region, RSD patients are quite frequently diagnosed with thoracic outlet syndrome. Unnecessary surgery for such patients is fraught with disastrous results. Usually facial injury causes referred pain to the C3 and C4 substantia gelatinosa gray matter of the spinal cord. This in turn causes spasm over deltoid and scalenus muscles. The end result is not only TMJ disease, but shoulder-hand syndrome and thoracic outlet syndrome. The combination of any two of the above three conditions points to RSD as the etiology. Obviously surgery for any of the above produces disastrous results.

2. Entrapment neuropathies such as carpal tunnel syndrome and tardy ulnar palsy are frequently mistaken diagnoses for RSD. Surgery in such cases is apt to aggravate the RSD, which has gone undiagnosed.

3. Rotator cuff injury or tear of the shoulder. It is not unusual to see a patient suffering from advanced RSD who has undergone multiple surgical procedures from the hand all the way to the shoulder with mistaken diagnoses of carpal tunnel syndrome, tardy ulnar palsy, and rotator cuff injury. Each one of the above surgical procedures cumulatively aggravates the RSD.

4. Knee injuries. It is not uncommon for the patient to sustain a blunt injury to the anterolateral aspect of the knee. This can cause RSD with afferent (pain) and efferent (limitation of motion of knee) complications. The arthroscopy done on such knee injury is "the straw that breaks the camel's back" and causes severe aggravation of RSD.