Controversies Surrounding Reflex Sympathetic Dystrophy:
A Review Article

Ronald P. Pawl, M D

Address
Pain Treatment Center, Lake Forest Hospital,
660 North Westmoreland Road, Lake Forest, IL 60045, USA.

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In part, the increase of attention to reflex sympathetic dystrophy (RSD) may reflect the evolution of pain medicine as a phenomenon in the medical community over the last three decades. Prior to 1972, and the founding of the International Association for the Study of Pain (IASP), pain was generally viewed as nociception generated by tissue damage, produced by mechanical, chemical, or thermal means, or inflammation. There were notable exceptions recognized, such as Munchhausen [1] and Secretan [2] syndromes, and what were thought to be equally rare other psychogenic or self-inflicted pain disorders. Also, chronic pain generally was viewed as prolonged acute pain, or prolonged nociception. It has been and is recognized that pain is a purely subjective report by the patient, with no way for the clinician to objectively verify the report, at least until recent studies using functional MRI and positron emission scanning. The IASP was founded by John Bonica, an anesthesiologist. The society is exceptional in that it is not confined to physicians (basic scientists, nurses, psychologists, and occupational and physical therapists may join, and regularly participate), nor is membership limited to certain specialist physicians.

Although multidisciplinary in concept originally, two dimensions evolved within the IASP and in pain medicine, which developed as a medical specialty consequent to the formation of IASP. Anesthesiologists came to be more frequently involved in treating pain, and, in fact today, make up the majority of members in the IASP and in all of the national scholarly pain societies, which formed as daughter societies to the IASP. Anesthesiology training programs, especially in the United States, Canada, and Australia, began offering subspecialty training in pain management, and by the mid-1990s, the Board of Anesthesiology began offering certification in pain management. Multidisciplinary pain centers evolved during the same time interval, incorporating the combined clinical efforts of physicians, usually physiatrists, neurologists, neurosurgeons, anesthesiologists, rheumatologists, or psychiatrists, and psychologists, nurses, physical therapists and occupational therapists.

The American Board of Pain Medicine (ABPM), a multidisciplinary organization, began certification in pain medicine in 1992. The certification in pain treatment by the Board of Anesthesia, although covering the broad topics of basic science, and diagnosis and treatment of pain, is primarily oriented toward postoperative pain management, injection therapy, and spinal cord and peripheral nerve stimulation. The certification examination of the ABPM, although it includes anesthesiology
Reflex Sympathetic Dystrophy

What is Reflex Sympathetic Dystrophy?

Reflex sympathetic dystrophy is a collection of signs and symptoms that make up a syndrome. Over the course of this century, the syndrome has gone by numerous names, hence the search in PubMed using the term algodystrophy, or painful dystrophy. The disorder is the same as causalgia, but without evidence of nervous system damage. Pain is the main symptom and must be present to make the diagnosis. The term causalgia means burning pain, and for many years the pain of RSD was described, likewise, as pain which had to be burning [6,7]. However, in the last decade, papers have appeared that indicate the pain may be other than burning, and, in fact most often the pain is other than burning. In a recent prospective study of RSD, only one fourth of the patients had burning pain [8], although this pain is the characteristic [7] that led to the original description of causalgia, or heat pain. Thus the very basis on which the name of the disorder was originally conceived is now controversial, confounding the diagnostic criteria of RSD, because the original concept of the disorder necessitated the pain to be described as burning [6,7].

The pain is further described in terms that are excessive for the injury that led to RSD in the first place. The foregoing statement presumes that RSD always arises after some injury [9]. That appears to be the case in much of the reported literature; however, often in adolescents, and occasionally in adults, RSD comes on spontaneously, which confounds the pain definition and the etiology of the disorder [6,10].

The pain is also reported to be confined to the (injured) limb, but expansive to areas of the limb that were uninjured, although not following a distribution consistent with a peripheral nerve territory. Thus the pain is diffuse within the limb, and more intense distally. More recently in this century, a concept has arisen that the pain may become even more diffuse, migrate to other limbs or to the other side of the body, and even spread generally throughout the body, including the head. Furthermore, in the same time frame of the last two decades, reports have indicated that RSD may be found as a primary problem in parts of the body other than the limbs, such as the face, trunk, or back, or even associated with radiculopathy.

Associated with the pain of RSD is allodynia, a report of pain from a nonpain-producing stimulus, such as a touch to the part, associated with hyperpathia, a continued report of pain after the nonnoxious stimulus has been removed from the afflicted part, for some seconds to even minutes. In the literature of the last decade, hyperpathia has largely disappeared from the pain description in RSD.

Swelling of the affected limb is also reported to be characteristic, and obvious on examination. However, in one large recent prospective study on RSD, it is noted that only a history of swelling is needed in order to make the diagnosis of RSD, even though the examination did not reveal the swelling [11], further confounding the diagnosis of RSD.

Associated with the swelling of the limb in RSD is a color and temperature change, which along with the swelling, implied malfunction of the sympathetic nervous system, hence the name reflex sympathetic dystrophy. However, throughout the course of the last century, the temperature change has been described either as cooler than or warmer than unaffected other parts of the body [12]. This controversy gets to the very basis of the condition as it is described and to the therapy that blocks the activity of the sympathetic nervous system chemically. If the temperature of the skin in the afflicted limb is warmer, then vasodilatation and hypoactivity of the