

Psychosomatic Backache

John E. Sarno, MD
New York, New York

It is contended in this report that the majority of pain syndromes involving the neck, shoulders, and low back are the result of a benign, reversible process in the musculature which is psychosomatic in nature and which has been called tension myositis. The natural history of the disorder, findings on physical examination, and diagnostic studies are briefly described. The theoretical basis for the conclusion that it is psychosomatic is discussed, the therapeutic program is described, and long-term results with a group of treated patients are presented. The results suggest that a program of physician counseling and physical therapy is generally successful. The author believes that the psychosomatic nature of the disorder places it within the purview of the behaviorally oriented specialty of family practice.

In 1974 the author published an article in one of the early issues of this journal entitled, "Psychogenic backache: The missing dimension."¹ Since the writing of that article, accumulated experience has fortified the impression that the majority of pain syndromes involving the back, ie, the entire back from the neck to the sacrum, are the result of a nonstructural process, a benign, reversible disorder of the musculature which is psychosomatic in origin. If that statement is true, the great public health problem of back pain falls directly within the purview of the developing specialty of family practice, both as a legitimate field for investigation and as an appropriate therapeutic domain.

The second of these assertions appears to be of particular relevance because of the commitment of family

practice to the concept of systematically incorporating behavioral science into the daily practice of medicine.² As we have learned more about the syndromes of back pain it has become increasingly clear that expert management requires a basic understanding of personality, and of family, social, and vocational psychodynamics. If the specialty of family practice can indeed produce behaviorally oriented practitioners, they should be uniquely qualified to diagnose and treat back pain syndromes.

Neck, shoulder, and low back pain syndromes have traditionally been viewed as a heterogeneous group of disorders primarily caused by postural, arthritic, and spondylotic abnormalities. An occasional bow has been made in the direction of "stress" and "tension" but for the most part, structural abnormalities of the spine are thought to represent the major etiologic factors. Nachemson has recently summarized his considerable knowledge and experience and concluded that the cause of most low back pain is still unknown, though he is strongly inclined to attribute it to some as yet unrecognized abnormality of the lumbar disc.³ (There is an excellent table

in that article which lists the irrelevant and questionable x-ray findings that are frequently cited as the cause of low back pain.)

Persistent pain in the neck and shoulder, often involving the ipsilateral arm as well, is invariably attributed to a "pinched nerve," the pinch ostensibly occurring at an intervertebral foramen, despite published reports that radiographic abnormalities of the cervical spine, including myelography, cannot be taken as ipso facto evidence of complicity in neck, shoulder, and arm pain.⁴

There is an entity which has been described for many years, primarily by non-orthopedists, which has been variously called fibrositis,^{5,6} myofibrositis⁷ and myofascial pain.^{8,9} Its existence is summarily denied by Nachemson³ but there is little question that it is a major cause of back pain. We believe it is synonymous with the process about to be discussed. Those who have studied fibrositis do not suggest that it is the end stage of a psychosomatic process. The explanation for radiating limb pain seen with fibrositis is usually based on the work of Kellgren.¹⁰

It should be stated that though evidence will be presented which supports the validity of the hypotheses to be developed, it is understood that they must be objectively verified. Since it is likely that we are dealing with a psychosomatic phenomenon there are formidable barriers to the elucidation of the entire process. Nevertheless, the magnitude of the health problem mandates continuing to do so.

Tension Myositis

It is postulated on the basis of diagnostic and therapeutic experience that about 80 percent of back pain syndromes are due to a benign, reversible, psychosomatic process within the neck and back musculature (Table 1). The name tension myositis has been affixed to the process for reasons that will become apparent. In 1946 Sargent described such a disorder in a group of returned Air Force veterans.¹¹ While it is true that his was a selected population, a group which had been exposed to severe stress, the syndromes described were strikingly similar to those we have seen in an unselected civilian population, sug-

From the Outpatient Services of the Institute of Rehabilitation Medicine, New York University Medical Center, New York, New York. Requests for reprints should be addressed to Dr. John E. Sarno, Institute of Rehabilitation Medicine, 400 East 34th Street, New York, NY 10016.

Table 1. Diagnosis and Site of Pathology in 65 Consecutive Patients with Skeletal Pain

	Total		Lower Back		Upper Back and Cervical		Both Lower and Upper Back		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%
Tension myositis	52	80	36	82	23	96	8	100	1	20
Psychogenic regional pain ("conversion")	12	18	8	18	1	4	0		3	60
Somatic process	1	2	0	0	0	0	0		1	20
	65	100	44	100	24	100	8	100	5	100

gesting at least that a similar pathology was possible in both groups. Since the recognition of this disorder, it has been diagnosed and treated in our clinic in well over 2,000 patients, some of whom have been studied systematically and will be discussed below.

The Clinical Picture

Tension myositis, alias fibrositis, myofibrositis, myofascial pain, comes on most characteristically following minor trauma, sprain, or strain to some segment of back musculature. (As stated above, "back" refers to neck, shoulders, posterior thoracic, lumbar, lumbosacral, and gluteal regions.) Hence it is often seen following "whiplash" injuries where there is no evidence of anatomical derangement to the cervical spine; after prolonged, unaccustomed labor (weekend gardening), lifting of unusual weights, and often following an innocent bend or twist of the trunk. Less often, onset is insidious and the patient is aware of pain on awakening in the morning. There is no doubt that this relationship to a physical happening has strongly influenced etiologic thinking. Regardless of initial mode of onset, if the syndrome persists most low back pain patients will sooner or later experience recurring acute exacerbations, at which time onset is "catastrophic" and disability considerable. They are in severe pain and may not be able to walk. A frequent description of the event is, "my back went out," and, indeed, the patient feels as though some significant structural derangement has occurred. All too frequently medication, bed rest, traction, and lumbar corsets are little, if any, help, or the pain will gradually subside only to recur in the same fashion at a later date. Back pain accompanied by ipsilateral leg pain is taken as prima facie evidence of a herniated disc despite the fact that such episodes may occur five or six times a year, occasionally vary from one side to the other, and often include more than one sensory segment — all facts which cast doubt on the validity of that diagnosis. Occasionally an acute exacerbation of pain coincides with a traumatic emotional incident.

Cervical pain syndromes are usually less dramatic since the patient's mobility is not impaired but can be very disabling when neck, shoulder, and arm pain are complicated by

Table 2. Associated Psychosomatic Disorders in 108 Patients with Tension Myositis

	No.	%
Total number with some related disorder	78	72
Peptic ulcer and related disorders	41	38
Allergic rhinitis and/or asthma	31	29
Colitis, spastic colon, or diverticulitis	24	22
Tension headache	18	17
Migraine headache	10	09
Idiopathic cardiac palpitations	4	04
Angioneurotic edema	5	05
Neurodermatitis, eczema, or psoriasis	7	06
Four of above	3	03
Three of above	17	16
Two of above	37	34
One of above	21	19

numbness and tingling in the fingers and feelings of weakness in the hand and arm. Once begun, the cervical syndrome tends to remain more or less constant until successful intervention.

A characteristic of both lower and upper back pain syndromes is the frequency with which symptoms persist at night; in many cases the pain actually begins or worsens at night, once more casting doubt on a structural etiology.

Here is a list of factors which generally tend to aggravate or exacerbate a low back pain syndrome, as reported by the patient:

- Prolonged sitting
- Prolonged standing in one place
- Walking more than 15 or 20 minutes
- Bending, lifting, pushing, pulling
- Isometric or isotonic contractions of involved muscle
- Stretching involved muscle
- Cold

Following is a list of factors which generally tend to alleviate low back pain, as reported by the patient:

- A short walk after sitting
- Lying in fetal position
- Local heat, hot shower, tub
- Gentle exercise

Physical Examination

The examination is generally marked, in both lower and upper back, by the paucity of findings. If seen shortly after onset of a low back pain episode the trunk may be tilted; there is usually no gait abnormality; the patient is often reluctant to bend forward, frequently out of fear but usually because it increases the pain. Straight leg raising, designed to demonstrate spinal root compression, often evokes pain by stretching or bringing about reflex contraction of the involved muscle. It is, therefore, not unusual to find contralateral back pain during the maneuver. Reflex, motor, and sensory testing are generally normal though there are positive findings in a small percentage of patients; the significance of this will be discussed below. The most constant and important finding is that of tenderness over the involved area. It suggests strongly that the pathology is intramuscular.

On examination for a neck or upper back pain syndrome, head movement usually produces pain in the posterior cervical and upper trapezius muscles with flexion and rotation. Extension

may also produce local pain but never in the arm; the latter is a frequent finding when there is a radiculitis due to compression of a spinal root in an intervertebral foramen. Once more neural testing is generally negative but palpation almost invariably evokes pain in the posterior neck and/or upper trapezius muscles.

Statistically, the glutei and the upper trapezii are the most common sites of tension myositis. Low back pain syndromes are seen more frequently, roughly in the proportion of three to two (Table 1).

Diagnostic Studies

There are only two studies of importance and both must be interpreted with extreme care. Reference has already been made to the often misleading information provided by x-ray. It may not be extreme to state that the sole virtue of x-rays of either the lumbar or cervical spine in the diagnosis of pain syndromes is to rule out neoplastic, infectious, or metabolic disease, and fortunately these are relatively rare. There is ample evidence in the literature that radiologic abnormalities in these two regions are not diagnostic in pain syndromes.^{3,4,12}

An electrodiagnostic examination, including electromyography and conduction studies, should be done when a neural deficit is suspected. It will usually be negative in tension myositis but may be mildly positive. It is postulated that tension myositis in the upper trapezii or glutei may give rise to a mild neuropathy. In the upper trapezii it is hypothesized that post-spinal nerves are somehow compromised and in the glutei the possibility exists that the sciatic nerve itself is the neuropathic locus. These neuropathies are generally transient and have frequently been observed to clear after a few weeks of treatment. Almost invariably, positive findings consist of hyperirritability on needle insertion and long duration polyphasic potentials. Occasionally there is evidence of denervation.

Evidence for a Psychosomatic Etiology

Such evidence is indirect but suggestive. In a group of 108 patients in whom the diagnosis of tension myositis was made according to the criteria detailed above, 72 percent had his-

tories of one or more classical psychosomatic disorders (Table 2).

A careful history frequently elicits the fact that an acute exacerbation of pain coincides with an episode of emotional strain or trauma.

There is a remarkable consistency in personality configuration among patients susceptible to tension myositis. They are generally hard working, responsible, conscientious, often compulsive and perfectionistic. These are common personality traits, but back pain is a very common disorder.

Perhaps the most convincing evidence, however, is the success of a therapeutic regimen based upon patient education, counseling, and physical therapy. This will be detailed below.

It is postulated that people who possess the personality traits listed above tend to generate tension, or anxiety, to be more psychologically precise. Anxiety may manifest itself affectively or be channeled into the soma and present as a pathophysiological process; hence, peptic ulcer, spastic colon, allergic rhinitis or asthma, tension or migraine headache — and tension myositis. It is ironic that the last of this group to be recognized may be the most common. The exact pathophysiological mechanism is totally obscure at this time. One suspects that it is mediated through the autonomic nervous system (as are peptic ulcer and spastic colitis) but there is at present no basis for more than conjecture. It would appear that the postural musculature in the susceptible patient is somehow sensitized, as the nasal tissues are analogously sensitized in the patient with allergic rhinitis. The physical incident, as described above, triggers the onset of acute "spasm" and the process, once begun, then tends to perpetuate itself. The fact that many patients have simultaneous pain in multiple areas in the neck, shoulders, and lower back gives credence to this hypothesis.

Treatment

Experience has demonstrated that the most important therapeutic modalities in the treatment of tension myositis are education and counseling. Upon learning the diagnosis and its generally positive implications, many patients experience a prompt reduction in symptoms. It is difficult to

Table 3. Results of Treatment of Psychogenic Regional Pain

	Mild 75-95% Normal	Moderate 50-70% Normal	Severe 25-45% Normal	Very Severe 5-20% Normal
Pain Free 100% Normal	0	0	0	0
Improved	0	2 (by 10% & 20%)	1 (by 40%)	0
Unchanged	0	1	2	0
Worse	1 (by 5%)	1 (by 10%)	0	1 (by 20%)
Lost to follow-up	0	0	0	0
Untreated	0	1	1	1

escape the conclusion that fear and apprehension, reduction in mobility, interference with personal, social, and vocational patterns, frustration, and anger all contribute to the perpetuation and extension of the somatic pathology. On his/her being made aware that there is nothing to fear, that the pathology is muscular and that activity is not contraindicated, a great deal of the patient's anxiety is eliminated and, therefore, there is a reduction in the "spasm" which was based on that anxiety. The behaviorally oriented practitioner can learn the techniques of transmitting this information to the patient. This is not psychotherapy; the goal is not the alteration or modification of personality. Awareness and insight into the nature of the process is what the physician seeks to transmit.

Some patients are unwilling or unable to grasp the concept. Though all patients have physical therapy, it probably serves a psychological as well as physical purpose for those who deny psychogenicity. It provides confidence or a face-saving mechanism through which recovery can take place. This is cure by suggestion (placebo). It is likely that the success of chiropractors and similar healers is accomplished through suggestion; there is no other rational explanation. Since tension myositis is a psychosomatic process, it is susceptible to the beneficial effects of suggestion.

The physical therapy program consists of a modality to warm the muscle tissue involved (diathermy, mild electrical stimulation, or ultrasound, alone or in combination as appropriate), massage, and an exercise program designed to encourage mobility and strengthen the trunk musculature, particularly the abdominals. The precise prescription is not as important as transmitting the idea to the patient that mobility is safe and desirable and will contribute to the rehabilitation process.

Follow-up Study

Tension myositis, psychogenic regional pain, or a purely somatic pathology was diagnosed in 65 consecutive patients who presented with skeletal pain syndromes. The distribution is in Table 1.

Psychogenic regional pain is a

Table 4. Results of Treatment of Tension Myositis

	Mild 75-95% Normal	Moderate 50-70% Normal	Severe 25-45% Normal	Very Severe 5-20% Normal
Pain free 100% Normal	2	11	4	
Improved	1	8*	7**	
Unchanged	1	1	0	
Worse	3	1†	0	
Lost to follow-up	0	0	3	
Untreated	3	6	0	1
Total	10	27	14	1
*average 19%	**average 34%	†by 30%		

phenomenon described by Walters¹³ in which there is no evidence of peripheral pathology to account for the pain. It is thought to be a kind of conversion process, though not all patients who manifest it have hysterical personalities. The poor results of treatment, seen in Table 3, attest to the fact that there is a more significant psychic disorder involved, though these patients are not psychotic. Those with severe manifestations are treated with severe physical therapy and psychotherapy on an inpatient basis.¹⁴

The population consisted of 40 females who ranged in age from 15 to 77 years with a mean of 48.3 years, and 25 males, ranging from 21 to 82 years with a mean of 44.8 years.

The results of treatment for tension myositis recorded in Table 4 are based on a survey done roughly one year after completion of treatment. Patients were seen and treated during a two-month period early in 1976, and the survey was conducted by mail and telephone during the month of March 1977.

The index of pain in each patient was a profile modified from Shealy¹⁵ consisting of five items in which the patient rated him/herself on a five-point scale (0 to 4) regarding the frequency or constancy of pain, its severity, the degree of physical restriction imposed by the pain, the emotional upset caused by the pain, and the medication taken each day. The resultant scores range from 0 (normal) to 20 (the most severe). A score of 20 means constant pain of excruciating severity, producing total physical dysfunction, serious psychologic disorganization, and requiring substantial narcotic administration. These scores were obtained at intake and in the follow-up survey one year later. The raw scores were converted into percentages where a score of 0 is equivalent to 100 percent normal and 20 is 0 percent normal.

The preponderance of patients with tension myositis remained free of pain or substantially improved roughly one year after the completion of treatment (Table 4). Most had a course of physical therapy ranging from 1 to 33 treatments (excepting the untreated). No patient in the mild or moderate group had psychotherapy. One patient in the severe group was begun and continues in psychotherapy as of the

date of this writing. The one patient in the very severe group whose score was 15 percent was evaluated for an insurance carrier but never authorized for treatment.

Discussion

We are aware that there are many elements in this report which demand objective verification. The basis upon which the diagnoses were established has only been lightly touched upon and may surely be the subject of warm controversy. The report is replete with dogmatic statements concerning the meaning of historical facts, signs and symptoms, and the value of diagnostic studies. However, it is the primary purpose of this paper to introduce a new concept. The urgency of the problem is such that one cannot indulge the luxury of complete scientific proof before introducing the subject. Indeed, none of the conventional methods of treatment or diagnostic criteria which now hold sway can claim scientific validity. They have become established and entrenched only through long usage. The fact that they have been found wanting is well known.

There is logic to the inability of conventionally trained specialists to recognize back pain as a psychosomatic manifestation. Medical education is still preponderantly mechanical-structural in orientation and weak in behavioral sophistication. Though the eventual elucidation of the entire process being called tension myositis will require neurophysiologic investigation which probably exceeds present technology, clinicians need not await that distant day. It is not even necessary to know the precise nature of the muscle pathology in tension myositis to treat it successfully. What is required is the ability to recognize and deal comfortably with the fact that personality has many somatic manifestations, some pathologic, some not, and that chief among these are the various syndromes of back pain. It is fortunate that the pathology is benign and reversible. When psychosomatic backache is incorrectly attributed to structural pathology, not only may treatment be unsuccessful but the fear and apprehension en-

gendered by such a diagnosis often intensifies the pathologic process. A relentless downward spiral is thereby created which can only be reversed by appropriate diagnosis and treatment.

There is a proportion of the back pain population which suffers from structural disorders. These can be identified by careful examination and appropriate laboratory studies. It is our contention, however, that this proportion is small, that the majority of patients with backache suffer from a somatic manifestation of psychic tension which is susceptible to accurate diagnosis and amenable to treatment based on sensitivity to the role of behavioral factors in health and illness.

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