

Headache and Chronic Pain in Primary Care

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DR. THOMAS GREER (*Assistant Professor, Department of Family Medicine*): The management of patients with chronic headaches is difficult and often a source of discord between the patient and his or her physician. The patient with chronic headaches presented in this conference illustrates most of the common problems encountered in the diagnosis, treatment, and management of patients with other kinds of chronic pain as well.

EPIDEMIOLOGY

More than 40 million Americans consult physicians each year for complaints of headache.¹ The National Ambulatory Medical Care Survey, which gathered information on approximately 90,000 patient visits to a nationally representative sample of physicians, determined that headache was the second most common chronic pain complaint.² Back pain, headache, chest pain, abdominal pain, and knee pain made up 52 percent of chronic pain visits, and these problems are becoming an ever-larger portion of medical practice. The costs to society in medical bills, compensation payments, and loss of productivity are enormous. The magnitude of the problem and the difficulty for the individual physician in dealing with it are reflected in the increasing numbers of recently developed pain clinics. While most physicians can successfully alleviate acute pain, they may use therapeutic strategies that perpetuate chronic pain.

CASE PRESENTATION

Mrs. P., a 41-year old woman, was seen at our Family Medical Center in July as a new member of a health maintenance organization. She had been injured in an

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automobile accident while vacationing in another state and suffered multiple contusions and rib fractures. Oral methadone had been prescribed at her second clinic visit when other oral narcotics failed to control her pain. She also had a long history of visits for headaches, treated with injections of a narcotic, usually meperidine, and oral codeine.

As her acute injuries healed and she was tapered off the methadone, her chronic headaches emerged as a significant problem. Within a few months the patient was regularly requesting oral codeine for the management of her severe, intractable headaches.

In early September she was brought to our emergency department by ambulance following an apparent seizure. Witnesses reported that the patient had "jerking movements." There was no incontinence; and the ambulance personnel found the patient to be irritable and disoriented but with stable vital signs.

Mrs. P. was admitted to University Hospital, where she underwent an extensive workup for this apparent seizure. The evaluation included a computed tomographic scan, spinal tap, blood chemistry determinations, and angiography, all of which were normal. The patient was begun on phenytoin soon after admission; a subsequent outpatient electroencephalogram (EEG) showed only a single epileptiform discharge.

By December the patient required weekly visits and increasing medication, but showed little improvement in symptoms. A Minnesota Multiphasic Personality Inventory (MMPI) showed a patient with very little insight. Our staff psychologist was consulted, and the patient was pressed to begin counseling. From the beginning, financial considerations were very important to the patient and her family. We found a therapist with expertise in chronic pain at a very reasonable fee. Mrs. P. embarked on a limited course of therapy with Dee Caplan-Tuke, a social worker. At the same time the patient was taken off codeine and placed on a fixed-interval pain cocktail containing methadone, hydroxyzine, and acetaminophen. Among other medications added were atenolol and trazodone hydrochloride; the patient was allowed to continue phenytoin and conjugated estrogen.

COUNSELING

DEE CAPLAN-TUKE (*Social Worker in Private Practice*): Mrs. P. defined as her presenting problem chronic headaches that began when she was 12 years old. She believes that she inherited the problem from her grandmother and mother, who both suffered from migraines. Her headaches are frequent, about once a week, and intense, lasting three to four days. The only relief she experiences is with frequent doses of acetaminophen with codeine or with narcotics injections.

The treatment plan involved several aspects. The initial goal was to help Mrs. P. identify what was stressful in her life and examine how she manages stress. Her defense against stress was to minimize it, internalize the feelings, or get furious and explode. My hypothesis was that these responses exacerbated her headaches. I began teaching her assertiveness techniques to develop some constructive alternatives to her passive-aggressive responses. The other area of treatment focused on pain management through exercise and relaxation. The course of treatment included individual, marital, and family therapy. After six sessions Mrs. P. decided to terminate counseling because of financial pressures, feeling that she could no longer afford the treatment. Our last session was in April.

Treatment was difficult for Mrs. P. for several reasons. The greatest handicap was her limited capacity for insight. She believes that a person must "pull oneself up by the bootstraps" and get on with life. She responded poorly to my efforts to help her understand the relationship between how she copes with stress and her headaches. At one point she admitted that the only time she felt that she received any support from her husband was when she had a headache. He never understood, however, the secondary gains resulting from her headaches.

During the marital sessions, her husband was quiet and passive. He offered verbal support but in fact spent little time at home and functioned more as an older brother than as a parent to their five boys. In the meeting after our family session, however, both Mrs. P. and her husband spoke of positive changes during that week, as the husband was more involved with the boys and helpful to her. Despite her problems and the couple's marital difficulties, the boys are functioning well.

Mrs. P.'s problems are typical of and consistent with substance abuse. She held firm in defining her problem as purely physical "headaches," categorically denying any problems with substance abuse. Because of her belief that she does not need therapy, I think that she is not a good candidate for therapy, even if money were not a factor. I would recommend consideration of an inpatient substance abuse program for her if the pain persists and she does not respond to the present course of treatment.

DR. GREER: Several other disciplines were involved in the care of this patient. In April the patient was dis-

cussed at the monthly psychosocial rounds. Present besides Ms. Caplan-Tuke and myself were Larry Mauksch, MEd, Family Medical Center mental health professional; Wayne Katon, MD, Chief, Division of Psychiatry Consultation-Liaison Services, Department of Psychiatry; Noel Chrisman, PhD, Anthropologist and Professor, Community Health Care Systems, School of Nursing; and Stephen Butler, MD, Attending Physician, University Hospital Pain Clinic.

OTHER BIOPSYCHOSOCIAL ISSUES

DR. WAYNE KATON (*Chief, Division of Psychiatry Consultation-Liaison*): First, I would like to comment on Mrs. P.'s family of origin, which has some characteristics that are quite common in patients with chronic pain. Mrs. P.'s father was an alcoholic who was often paranoid and abusive when intoxicated. He was one of seven brothers, all of whom had problems with alcohol abuse. Mrs. P.'s mother and grandmother had chronic headaches, and she and her three sisters frequently had to take over the mother's household duties when she was "ill" with a headache. Thus, Mrs. P. had a strong family history of both chronic pain and alcoholism, and there is a high familial prevalence of these problems in patients with chronic pain.³ Both alcoholism and somatization are coping mechanisms in which feelings are repressed and denied, and the patient either covers over the feelings with alcohol or selectively focuses on somatic concerns rather than emotion-oriented personal problems. Indeed, Mrs. P.'s MMPI revealed significant denial and repression of emotions and externalization of stress. She had a significant elevation of the hypochondriasis scale, which is correlated with patients who present specific somatic complaints but deny emotional or interpersonal distress. In these patients there is a low correlation between the presence of physical disease and self-report. Another factor connecting alcoholism and somatization is that alcoholics have high rates of absenteeism in their jobs and frequently use somatic complaints as a way of hiding their addiction.^{3,4} Thus children in these families learn early in life that amplification of somatic problems can be used to manipulate interpersonal relationships as well as avoid responsibilities.

A second point here is that Mrs. P. has many of the characteristics of the adult child of an alcoholic.⁴ Families in which alcoholism is present often do not teach an emotional language, and there is much denial and repression of the secret of alcoholism as well as other life problems. The children of alcoholics often grow up fearing intimacy and dependency on another person and frequently choose a spouse whom they will take care of as they would a child.⁵ Indeed Mr. P. is a passive, dependent man whose parents died when he was young; and he was raised in

multiple foster homes. Mrs. P. describes him as a sixth child (they have five boys) and complains that she gets no support from him in caring for the boys. On the other hand, Mr. P. works two jobs to try to pay the bills. Thus, ironically, she complains of little support and intimacy from him, yet he has to work two jobs to pay her medical bills. The problem in both of these adults is fear of intimacy, and unconsciously she is glad he is not around the family more or capable of supporting her. The adult children of alcoholics often are caretakers of multiple others in the family, especially if they were the overresponsible parent child of the family of origin; however, they often feel guilty when they are taken care of. Indeed, Mrs. P. can only ask for help or accept being taken care of when she has a headache. Then Mr. P. takes over the family, the boys are quiet, and she retreats to her bedroom. Family therapy aimed at Mrs. P. more directly asking for her needs to be met and at strategies to increase Mr. P.'s involvement with his sons would be helpful. At some point marital therapy with both of these adults would also be helpful.

Many of the patients with chronic pain whom I interview have chronic psychological pain that is reported in a somatic idiom. Pragmatically, Mrs. P. has two other problems necessitating intervention. First, she has five vegetative signs of depression; eg, insomnia, decreased energy, despondent mood, decreased libido, and increased appetite with weight gain. In all of our studies of patients with chronic pain, we have found a very high association with major depression.^{3,6} Tricyclic antidepressants have been found in double-blind studies to be significantly more effective than placebo in patients with chronic pain and in patients with both chronic pain and depression.⁶ Mrs. P. is already taking 75 mg of trazodone; I would gradually increase her antidepressant therapy. Amitriptyline has been most commonly shown to help patients with migraine headaches,⁷⁻⁹ and it could be used instead of trazodone.

Finally, Mrs. P. has a significant problem of addiction to narcotics. Recent information from her sister indicated that Mrs. P. has been going to two physicians and two different pharmacies and getting opiate prescriptions from both. Her sister indicated that she was also drinking heavily. Indeed, my suspicion is that her seizure in the fall may have been precipitated by withdrawal from alcohol or other sedative hypnotics. Interestingly, we have found that as many as 40 percent of chronic pain patients have had prior alcohol or substance abuse problems and switch to opiates once their chronic pain develops.³ Inpatient pain services have recognized that once pain patients are detoxified from opiates, approximately 10 to 20 percent no longer suffer from pain. My own philosophy is that except in rare instances (terminal cancer, for instance) chronic opiate use is contraindicated in chronic pain treatment. These medications need to be increased

over time to be effective in chronic pain; tolerance is thus unavoidable and the side effects are profound. They also are very seductive medications to patients with chronic psychological pain in that they are the most potent medications ever discovered that temporarily cure psychological pain.

I would convert a regimen of codeine and meperidine shots to a pain cocktail with methadone and give it on a four-times-daily basis. I would then taper opiates gradually over a course of weeks, as you have done.

The patient has chronic pain syndrome. She is the child of an alcoholic. Her managed insurance plan should be approached through our medical staff representative to approve more mental health benefits. This patient did benefit from mental health counseling to some degree: her emergency visits are down, and she is doing better.

DR. NOEL CHRISMAN (*Anthropologist, Professor, Community Health Care Systems, School of Nursing*): Mrs. P.'s cultural beliefs about her headaches are consistent with one aspect of the beliefs of many Americans, that is, she sees her problem in a mechanistic way in which "something" wrong in her body causes symptoms through a longer or shorter train of cause and effect. In her case, these headaches are believed related to a hereditary problem connected with menstruation. One of her female relatives had a similar problem. Her explanatory model holds that the headaches started at menarche and will cease at menopause. In addition, she notes that when she has been pregnant, the headaches disappear. The usual approach of attempting to provide Mrs. P. with an alternative cultural explanation for her health problems will be difficult in this case, in part, because the existing belief is so logical within American culture and in part because of the amount of secondary gain she receives within her family. Nonetheless, I recommend trying a new explanation. Suggest to Mrs. P. that the "something" wrong may be a hereditary inability to handle stress; this inability is the beginning of a chain reaction that includes menstruation and headaches. This explanation may facilitate antidepressants and talk therapy while remaining within general American concepts of mechanistic causes of health problems.

UNDERSTANDING CHRONIC PAIN

DR. STEPHEN H. BUTLER (*Associate Professor, Department of Anesthesiology, University Hospital Pain Clinic*): Unfortunately many patients and some of their physicians continue to believe that all pains are due to some form of tissue pathology and that successful treatment will occur only after the source of the pain is identified and removed. In fact, acute and chronic pain may have very different anatomical, physiological, and psychological underlying causes.^{10,11}

Nociception is defined as the detection of potentially tissue-damaging thermal or mechanical energy by specialized nerve endings connected to the central nervous system. It is a specific function of the peripheral sensory system. There are many diseases characterized by chronic pain in the absence of any evidence for ongoing nociceptive activity (ie, phantom limb pain, postherpetic neuralgia, tic douloureux). A meaningful concept of pain must include an explanation for those types of pain unrelated to noxious stimulation. We do not completely understand the neural mechanism of central pain states, but it is essential when evaluating studies of pain to discriminate pain caused by nociception from pain caused by something abnormal within the nervous system at any level. Both are equally real but have widely different anatomical and physiological underlying causes.

Pain usually leads to suffering, which is defined as a negative response caused by pain as well as by such diverse phenomena as depression, isolation, anxiety, and fear. People may suffer for a variety of reasons, but many people use the language of pain to describe all the phenomena of suffering. Describing suffering with the vocabulary of pain leads to more confusion. Suffering needs to be separated from pain and viewed in a different way.

Nociception, pain, and suffering are private internal events that can neither be quantified nor be proven to exist. Suffering usually leads to pain behavior, which is the interaction between the individual and the surrounding world. Pain behavior is defined as any and all outputs of the individual that a reasonable observer would characterize as suggesting pain, such as (but not limited to) posture, facial expression, taking medicines, lying down, seeking medical assistance, and receiving compensation. Events outside the patient often play a major role in the origin of pain behavior. The task of the physician is to determine how much of the suffering is due to nociception and how much is due to other influences from lower to higher levels of the nervous system. Distinguishing the sources of pain and suffering is very important in directing treatment. Too often we see patients for whom treatments (ie, surgery, narcotics) are directed toward pain where nociception has not been identified. Behavioral modification in the patient and his or her environment, including the health care system, may be the most important treatment.

Chronic pain often has little evidence for any nociceptive activity and is more often related to pain in the absence of nociception or to affective and environmental factors. Nociception is important in causing acute pain and is usually absent in chronic pain. Affective and behavioral factors are very important causes of chronic pain.

It is important to discriminate between chronic pain from cancer and that from a benign disease process. The pain associated with uncontrolled cancer is due to continuous and often increasing tissue damage; it is best de-

scribed as long-standing acute pain and should be treated with therapies aimed at reducing nociception.

Patients with chronic pain manifest many phenomena that suggest the interaction between the patient and his or her environment is a major cause of illness. Pain behavior is frequently associated with a payoff, that is, something desirable happens if the patient has a pain behavior—attention from the spouse, financial compensation, or avoidance of something undesirable such as getting out of a stressful job or avoiding personal contact with a threatening individual or situation. In addition, some people continue to seek medical attention solely because they need or desire personal interaction with other human beings. Others believe that continuing a physical activity that produces only moderate distress will lead to an increase in tissue damage and pain.

MANAGEMENT

DR. GREER: After the interdisciplinary conference the suggested changes were made in Mrs. P.'s regimen. She did well for several months, but with the approach of summer her demands for increased pain medicine became more frequent. By this time the medical treatment of her headaches had been optimized. She had been tapered off methadone slowly and was switched to amitriptyline. Amitriptyline is a tricyclic antidepressant that has been adequately studied and shown to be effective in the elimination or reduction of migraine headaches.⁷⁻⁹

The patient was also switched from atenolol (used to manage her high blood pressure) to nadolol. Atenolol could be effective, but it has less central nervous system effect and apparently was not helpful in this patient. β -Blockers such as nadolol have been found to be effective for headache management, especially in higher doses (320 mg).

After a month on maximum doses of amitriptyline and nadolol, Mrs. P. showed little improvement. She continued to receive a pain cocktail containing acetaminophen and hydroxyzine. Naproxen, 375 mg three times a day, was added for two additional weeks, but she continued to have frequent headaches.¹²

After the patient was stabilized on amitriptyline and nadolol she had another EEG, showing one epileptiform spike. Our neurology consultant suggested that phenytoin be continued with a repeat EEG in one year.

When all these maneuvers failed to bring improvement, we decided that the multidisciplinary approach offered by the University's Pain Clinic might provide additional assistance, so a referral was made.

DR. BUTLER: The family physician needs to recognize chronic pain syndromes and be expert at dealing with

their manifestations. Chronic pain syndrome is a common problem that is often difficult to manage well. For those with a poor understanding of its significance, the chronic pain patient becomes more difficult to help with each passing day. Perhaps the best approach for the primary care physician borrows heavily from the behavioral approach.

A behavioral approach to evaluation and management is summarized as follows:

1. In trauma-induced pain persisting beyond expected healing time (ie, six weeks to three months), the possibility of little or no linkage between pain behaviors and alleged or inferred nociception should be considered. There may now be a problem relating to learning or conditioning.

2. Do not assume that a learned or conditioned pain always relates to some personality or motivational problem.

3. In chronic pain, evaluation should examine as much as possible what the person does—his or her actions. Do not rely solely on physical examination, verbal reports, or body language.

4. Patient evaluation should always include an interview of the spouse or other significant individuals, since their responses to pain behaviors and their observations of the patient provide critical information.

5. Pain medications, muscle relaxants, sedative-hypnotic drugs as well as pain-contingent rest may have adverse effects on the patient. Especially if these therapies are prescribed as a result of pain behavior, there is a major risk of extending the duration and severity of the pain problem. If pain medications are used at all, they should be used on a time-contingent basis (that is, with fixed time intervals between doses).

6. Social feedback, especially by family members, should not reinforce pain behaviors, which only worsens the problem.

7. Increasing physical activity is essential for the chronic pain patient who has had a reduced activity level. The level of activity must be gradually increased even if the patient complains of increasing pain as a result.

Finally, it is very important to remember that in chronic illness, reduction of symptoms or impairment is by no means automatically followed by resumption of effective well behavior. Many factors play a role: (1) Inactivity leads to poor muscle and joint tone and easy fatigability. (2) Disuse leads to skill reduction. (3) Some people have defects in their ability to cope with the demands of life. (4) Long periods of inactivity may lead to the loss of access to opportunities for jobs. It is essential in the management of chronic pain that the treatment program consider what the person will do when the pain subsides and maximize the likelihood of achieving those goals.

CONCLUDING COMMENTS

DR. GREER: Mrs. P.'s lack of insight into her problems and the definite secondary gain she received from her headaches helped make her resistant to acceptance of further therapy aimed at behavior modification. At this point she was told that she could not be seen in the emergency department for her headaches, and she would not be given any narcotic medication. Interestingly, her frequency of headaches gradually dropped to once per month, and she made fewer calls to our office for this problem.

Chronic headaches as a type of chronic pain deserve more study. The entire classification of headaches is under review. The current classification is the result of a committee attempting to bring some understanding to the issue.¹³ Many authorities now suggest that the 1962 classification of headaches needs radical reconsideration. Most people seem to have a combination of the types of headaches identified in the 1962 nomenclature. Featherstone¹⁴ for one has noted the lack of clearcut diagnostic criteria and absence of clinical tests to establish a diagnostic distinction between migraine and muscle contraction ("tension") headaches. He notes the evidence of many similarities between the two types and supports the idea of a headache continuum. Rather than being different entities, headaches may vary in symptom quantities instead of qualitative differences.¹⁴⁻¹⁶ Just because the patient has a label such as migraine, we should not limit treatment to only a certain few modalities and assume that the patient is in much greater pain than a patient with muscle contraction headaches. In fact, the chronic headache patient who is refractory to common remedies is more like the patient with chronic low back pain than the other patients with occasional acute headaches.

Chronic pain is a common problem seen by the family physician. We need to demedicalize chronic pain and treat it very differently from the way we treat acute pain. It is said that patients suffer as much with tissue injury pain as someone they pay attention to thinks they should. In view of this we should ask, "What am I teaching my patients?" We should be saying:

1. Hurt and harm are not the same.
2. How much better you get depends on how much you physically do.
3. To make it better, use it. Teach the patient to work to a quota mode, not work to tolerance or pain. Teach that it is safe to move. Insist on working with family members so that they will stop reinforcing pain behaviors.
4. It's only pain; don't give it more meaning than it deserves. When patients say they are suffering, listen, but don't worry about it. If medication must be prescribed, give it on a time-contingent basis and then quickly and

systematically decrease the pain-killing medication. Patients consuming a large amount of aspirin or acetaminophen (greater than 100 tablets per month), narcotics, or ergot can develop rebound headaches refractive to all treatment modalities. These patients must be detoxified (frequently in an inpatient setting) before these headaches can be brought under control.¹⁷

Authors reporting another interesting study found the severity of headache at the time of the first visit to be strongly related to outcome. The strongest predictor of resolution of headaches, however, was a patient's statement at the six-week interview that he or she had been able to discuss fully the headache and related problems with the physician. This association held for both organic and nonorganic headaches. It was also found that a physician's apparent lesser-liking for a patient, noted at the first visit, was a predictor of poor outcome. Although these observations lend themselves to several possible explanations, it appears that the outcome of this illness may be influenced by the physician-patient relationship.¹⁶

Headaches are a common presentation of chronic pain. Physicians can optimize medical treatment of this problem, but they will often be unsuccessful in helping the patient unless they search for and understand underlying issues. Many of the difficulties these patients with chronic pain may face can be iatrogenic. Physicians may fail to recognize that narcotics can actually exacerbate headaches. Giving these medications on a pain-contingent basis may reinforce pain behavior. A behavioral approach to the evaluation and management of chronic pain is most helpful. Psychological evaluation and concurrent psychotherapy may be essential if the cycle of chronic pain of headache is to be broken.

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