Reducing the Urge to Smoke

Surgeon General C. Everett Koop has stated that cigarette smoking is the major preventable cause of death and disease in the United States. The American College of Physicians has further observed that cigarette smokers are at least generally aware of the health risks of smoking and would like to quit, and that as many as one third of the would-be quitters will seek assistance from health professionals.1 Unfortunately, until recent years, there was relatively little by way of efficacious therapeutic support that the health professional could offer to this potential population of patients which number in the millions in the United States alone. Today, however, for those willing to make the effort, specific relapse prevention strategies are available;2 the first nicotine replacement formulation approved by the FDA (nicotine polarcrlax or gum) has been marketed, and new information regarding its proper application is being continually obtained.3 These recent developments are the "good news" in the face of what Dr. William Pollin has described as the most damaging of all forms of drug addiction combined.4 The "bad news" is that we have still been largely unable to address the most common presenting complaint of the would be quitter: namely, "the urge to smoke" or "craving for a cigarette." The reason seems to be that urges become highly conditioned to occur in response to environmental stimuli (advertising, other smokers), stressful events, and even internal stimuli (the "thought" of a cigarette). Nicotine replacement and relapse prevention strategies are generally not efficacious in eliminating such urges.5

The strategy described by Rose and Hickman (see page 1005) of using a citric acid spray to reduce the urge to smoke, is based upon the theory that just as urges can arise as conditioned responses, so also can the satisfaction derived from use.4 Thus, for instance, the initially aversive taste of strong alcoholic beverages, the nausea provided by a high dose of an opioid, and the harshness of tobacco smoke, can become powerful behavior-maintaining stimuli in their own right. The approach of providing such stimuli in the absence of the centrally acting addictive chemical (the nicotine in tobacco smoke) has not been widely explored, in part because mimicking the sensations produced by the vehicle would often involve the administration of another toxic substance (the smoke of nicotine-free cigarettes) or otherwise undesirable behaviors (mock "drug" injections).

The strategy offered by Rose and Hickman, described in this issue of Chest, appears to be not only safe and convenient, but also efficacious at reducing the urge to smoke. If the results are extended to a clinical setting, such procedures could be of substantial importance. Of course, it would not be expected that such an approach would block physiologic withdrawal, but even if only a brief symptomatic alleviation of urge to smoke was produced, the clinical utility could be significant. It could prove to be a useful, additional strategy to supplement the growing armamentarium aimed at relapse prevention. Only time and further testing will tell, but development of citric acid spray or similar approach is potentially a significant advance for alleviation of urges to smoke, and thus, for the treatment of cigarette smoking.

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Variant Angina Pectoris

Is the Parasympathetic Nervous System at Fault?

Spasm of the coronary vasculature is a recognized phenomenon which may play a role in a number of
coronary syndromes, most notably variant (Prinzmetal's) angina.\textsuperscript{1} However, of greater overall importance is the concept of "spasm" which adds a new dimension to our understanding of coronary blood flow and ischemic states. No longer can ischemia be considered a simple matter of supply and demand, for we now know that coronary flow is a dynamic and variable, rather than a fixed, process.

It is important to appreciate that coronary artery spasm represents a response to a stimulus which minimally affects "normal" coronary arteries.\textsuperscript{4} In the majority of cases, "abnormal" coronary arteries are those with either focal or generalized atherosclerosis. However, on occasion, vessels apparently free of macroscopic atherosclerosis can undergo spasm. This is important for three reasons: 1) it suggests that "local" factors exist within the vessel itself which make it hypersensitive to vasoconstrictor stimuli, 2) these "local" factors are likely influenced or modified by components and processes endogenous to normal or near-normal vessels, and 3) a stimulus outside the vascular system may play an intricate role in coronary spasm.

The syndrome of variant angina is characterized by recurrent episodes of myocardial ischemia, either symptomatic or silent, occurring in the early morning hours while at rest. The cyclic, repetitive and characteristic features of this disorder favor a well-defined pathophysiologic process, rather than merely a "non-specific" state of vascular hyperreactivity.\textsuperscript{4,5}

Recent work in the area of coronary spasm and variant angina has focused on potential abnormalities within the autonomic nervous system, particularly the parasympathetic division. Direct parasympathetic innervation is lacking in most vascular beds; however, the coronary arterial system receives dense parasympathetic input.\textsuperscript{6} Direct vasodilation may be elicited following vagal stimulation\textsuperscript{7,8} as a result of: 1) prejunctional inhibition of sympathetic neurotransmission, and 2) post-junctional endothelium-dependent relaxation of vascular smooth muscle.\textsuperscript{9,10} The latter mechanism has particular clinical relevance given the paradoxical vasoconstrictor response of atherosclerotic vessels to the muscarinic cholinergic agonists methacholine and acetylcholine,\textsuperscript{11,12} which may be inhibited by pretreatment with atropine.\textsuperscript{13}

It is known that parasympathetic activity is relatively increased during periods of inactivity, particularly with sleep. Attempts to document abnormal sympathetic activity in patients with variant angina, even during periods of symptomatic coronary artery spasm, have not met with success,\textsuperscript{14} thereby implying a state of parasympathetic dominance during these episodes. Recently, we cared for a patient who had recurrent episodes of nocturnal diaphoresis accompanied by precordial ST-segment elevation. This woman developed angiographically documented coronary arterial spasm in response to acetylcholine infusion. The combination of nocturnal sweating and acetylcholine-induced spasm is interesting given the parasympathetic dominance of the eccrine sweat glands.\textsuperscript{15} Indeed, a pathologic state of excessive parasympathetic outflow may be the extravascular stimulus involved in the pathophysiologic sequence leading to coronary artery spasm.

The evidence to date supports a role for the parasympathetic nervous system in variant angina. While a cause-effect relationship is far from established, parasympathetic influences are, at the very least, important with regard to resting vascular tone and response to vasoreactive stimuli. On-going efforts to understand this fascinating disorder may reveal it to be neurologic as well as cardiovascular in origin.

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Continuing medical education continues to be a high priority of the American College of Chest Physicians. Therefore, it is entirely appropriate to include the following thoughtful commentary by a recognized authority in CME. We welcome communications from those who have proponent or opponent views! These comments will be published in our section, Communications to the Editor.

EDITOR

The Bureaucratic Imperative in Continuing Medical Education

Most of organized medicine places its faith in the Accreditation Council for Continuing Medical Education (ACCME) as the voluntary quality-control mechanism in continuing medical education. As an assurance that medicine’s faith is well placed, ACCME is initiating a monitoring process to assure fairness and objectivity in the review process by which organizations are accredited as sponsors of continuing medical education. The monitoring process is needed.

The ACCME conducts a voluntary accreditation program for institutions and organizations providing CME credit; by evaluating and granting recognition to organizations that comply with ACCME “essentials,” the Accreditation Council seeks to improve the quality of CME on behalf of physicians and public. As is the case with other accreditation bodies, ACCME has multiple parents representing broad physician and public constituencies: the American Medical Association, American Hospital Association, American Board of Medical Specialties, Association of American Medical Colleges, Federation of State Medical Boards, Association for Hospital Medical Education, and the Council of Medical Specialty Societies. Each parent furnishes members to the ACCME. Administrative housing is provided by the Council of Medical Specialty Societies.

The “essentials” are the core around which review and accreditation are organized. These are the requirements which a sponsor of CME must substantially meet in order to be approved for accreditation. In brief, the “essentials” require that a CME-sponsoring organization must have: (1) a written statement of its CME mission; (2) established procedures for identifying and analyzing CME needs and interests of prospective participants; (3) explicit objectives for each CME activity; (4) educational activities consistent in content and method with stated objectives; (5) evaluation of the effectiveness of its overall CME program; (6) management procedures and other necessary resources to fulfill its CME mission; and (7) responsibility for meeting the “essentials” in any program it jointly sponsors with non-accredited entities.

The organization seeking accreditation or reaccreditation files an application and submits supporting materials to the ACCME office. Review of the application and materials is presumably confined to those criteria which comprise the “essentials.” It is at this point that one’s faith begins to be shaken regarding the accreditation process.

Review of the applicant organization for accreditation is conducted by site visit, but review for reaccreditation is conducted by “reverse site visit.” Unlike procedures for reaccreditation followed by its predecessor, the Liaison Committee on Continuing Medical Education, the ACCME Review Committee does not assign a team to do an on-site visit during a CME offering of the applicant organization. Rather, the applicant organization must send its representatives to meet with a three-member Review Committee team. The meeting is usually at a hotel, and is conducted in a one-hour visit on a day when that team will meet with several other applicants. The brevity of the meeting lends itself to superficiality in development of facts.

When the “reverse site visit” is conducted, probably only the chairman of the three-member Review Committee team will have received the material submitted by the applicant organization. The other two members of the team frequently will not have seen or discussed the material, other than receiving a briefing from the chairman. It is not unusual for the Review Committee team to reveal, by the nature of their questions, that the “essentials” are not the issues they intend to pursue. Thus, questions and criticisms stated by reviewers have indicated an apparent belief that an organization’s CME committee and staff should have extraordinary budgetary and management authority. One cannot quarrel with the commonplace proposition that CME should have an identifiable budget, should be well managed and should be related primarily to the needs of practicing physicians rather than to the political or economic needs of the organization. On the other hand, one can quarrel with the proposition, implicit in the questions and comments of some reviewers, that CME should be so autonomous within an organization that it may challenge the authority of the governing board regarding the allocation and use of organizational resources. In medical societies, the governing board is the body that has fiduciary responsibility to its physician membership. One also may quarrel with reviewers’ use of Essential 6 (management procedures) to make “management style” of the board and chief staff executive a major point of critical examination, presumably in relation to the degree of