Physician Education and the Pharmaceutical Industry

In the current issue of CHEST (see pages 1255 and 1257), two thoughtful leaders of the American College of Chest Physicians (ACCP) frame an issue that confronts most physicians today—the relationship between us, the physicians, and the medical products industry. This relationship connects those who sell medical products (pharmaceutical or technology) and those who prescribe the use of those products (we, the physicians). More specifically, the comments written by Basil Varkey, MD, FCCP, and Alvin Lever, MA, FCCP (Hon), address the role of the pharmaceutical industry in physician education. This is an intellectual, civil exchange between two individuals who are united in their support of the ACCP. Dr. Varkey, a longtime ACCP Fellow, and Mr. Lever, the Executive Vice President and Chief Executive Officer (CEO) of the organization.

As an individual, Dr. Varkey raises two major issues. First, he cites the connection between the corporations who paid for prominent advertising spots at CHEST 2000 and the College itself. Second, he expresses concerns about the apparent educational partnership of the College with corporations. Mr. Lever responds to the former concern with an earnest explanation and remedy. He takes up the latter by detailing the rules that regulate accredited medical education in this country, and by which the College abides in its conduct of continuing medical education. The issues are forthright and deserve the attention of the College and its members.

There were Fellows at CHEST 2000 who noticed and expressed to me and other ACCP leaders their concerns about the corporate presence. They often cited, specifically, as does Dr. Varkey, the badges and the large screen at the bottom of the entry escalators. In recent years, I have had the opportunity to attend various medical meetings, and the commercialism at the CHEST meeting is not discernably different from that observed at those meetings. Commercialism is prevalent throughout our field and society as a whole (examine the Olympics, for example). We, as sophisticated consumers outside our profession, are accustomed, I believe, to tuning out advertisements of all sorts at any given time.

One week after the CHEST meeting in San Francisco, I spoke briefly at the American Association of Blood Banks in Washington, DC. There, I noted that everyone’s badge was emblazoned with a name of a corporate sponsor. Intrigued by the criticism at CHEST 2000, I took an informal (hardly scientific) poll. The response was best characterized as stunned indifference: “I never really thought about it,” one said; and “I suppose we need the money to support this big meeting,” said another. Most of those individuals I queried believed that they personally had no decision-making power related to the company in question. Clearly, what appears to one physician as a corporation buying undue influence through advertising dollars is to another physician a “nice badge” or a “good meeting” without any perceived impropriety or even a legitimate connection between the desire of the industry to promote their products and the educational essence of the meeting.

The second issue raised by Dr. Varkey and to which Mr. Lever responded is more complex. While we can advocate a buyer-beware stance with respect to medical advertising, that which we, as a College, put forth as education must indeed be free from undue influence. It is difficult, if not impossible, for listeners to be wary if they are ignorant of hidden support or conflicts that exist, thus the many disclosure policies in use today. As a former Chair of the ACCP Continuing Education Committee (CEC), I am familiar with the processes cited by Mr. Lever. The United States Accreditation Council for Continuing Medical Education (ACCME) strives to accredit only high-quality, untainted medical education. The ACCP complies scrupulously with the ACCME requirements. Our own CEC even goes beyond the requirements, but nothing absolutely prevents unscrupulous individuals from promoting their own best interests to the detriment of those they serve. Our organizational process is intended to protect, and in my opinion does protect, the slightly wary physician from undue influence, and thus, ensures the integrity of the College’s educational activities.

For me, all this boils down to individual vs organizational responsibility. On one hand, we have the appropriate concerns raised by individuals. In this particular instance, it is a single individual’s attention (Dr. Varkey), but there were others who mentioned such concerns to me at CHEST 2000. On the other hand, from the CEO of one of the foremost medical organizations of this country, we have a response detailing concerns of an organization. This response is an organizational, group-process-oriented one—as it should be. It remains the responsibility of an individual to be wary—caveat emptor. No organization can ever reflect the totality of the various ethical beliefs and economic philosophies of its membership. Instead, an organization must set reasonable, rather widely supported universal standards and define a process that will prevent it from veering imperceptibly off course. Individuals
should do what they must independently to avoid conflicts that would compromise their patient-related decisions.

As physicians, still proud of our scientific heritage, we are, after all, inherently skeptical, and may it always be so. It is our best, perhaps our only, certain protection against exchanging our judgment for someone else’s. As individuals, ethics are not generally something we naturally possess, but something we must constantly work at; on the other hand, the ethics of an organization are something it must possess, but however roughly, its ethics can only be an approximate reflection, a mean if you will, of the ethics of its members. Confident of the ethics of our members, I feel the College is mindful that our primary duty is to our patients, and that is a duty that cannot, and will not, be compromised.

While nothing I have written above is official policy of the ACCP, I believe that I can speak for the College in asserting that we welcome a dialogue on these issues. Only in this way can we ensure that our policies and standards remain current and appropriate.

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Critical Interactions

Man and Machine

Positive pressure ventilation has been used for hundreds of years since Vesalhns demonstrated its benefit in dying animals in 1543. Mechanical ventilation (MV) may be employed to improve pulmonary gas exchange, to relieve respiratory muscle fatigue, to allow lung and airway healing, and to avoid complications. Nonetheless, complications associated with MV were described as far back as 1827 when Leroy observed that pneumothorax could result from overaggressive bellows inflation.1

Physicians are aware of multiple complications associated with MV. There may be problems related to the acts of intubation and extubation. Many problems are directly related to the ventilator itself, and they include machine malfunction, alarm failure, inadequate humidification, and volutrauma/ventilator-induced lung injury. Ventilator-associated pneumonia and hemodynamic alterations caused by MV represent major challenges as well.2,3

Some problems, however, may be indirectly related to MV. In this issue of CHEST, Mutlu et al (see page 1222) review various GI complications associated with MV. The authors discuss topics including stress-related mucosal damage, esophagitis, motility problems, diarrhea, and acalculous cholecystitis. The underlying pathophysiologic mechanisms are likely multifactorial and are not always clearly known. For reasons discussed in the article, the GI system is at increased risk for ischemic events. MV may precipitate hemodynamic changes resulting in hypoperfusion. There can be hormonal changes, including activation of the renin-angiotensin axis and increased catecholamines. This too can result in vasoconstriction and vascular redistribution. Inflammatory mediators, including several cytokines, can initiate a cascade of events with multiple downstream effects resulting in splanchic hypoperfusion and activation of the immune system.

We should not be surprised that other extracorporeal mechanical devices also have both direct and indirect complications. We should also not be surprised since many of the same pathophysiologic mechanisms are invoked. Cardiopulmonary bypass (CPB) has been implicated in a whole-body inflammatory response with complement activation, cytokines, free radicals, and the arachidonic acid cascade.4 The postpump syndrome is probably the most well-known complication of CPB, but other organ systems, including the GI tract, can be involved. CPB has been associated with alterations in mucosal perfusion, epithelial permeability, edema formation, and vascular regulation in the GI tract. Complement 5a has been implicated as causal in regard to neutrophil-mediated impairment of ileal microvascular regulation.5 Fitzgerald et al6 reviewed GI complications associated with CPB. Similar to the study of Mutlu et al on MV, they described complications including pancreatitis, gastritis or ulcers, choledolithiasis, colonic perforation, bleeding, bowel obstruction, diverticulitis, and visceral ischemia. They concluded that patients with risk factors including end-stage renal disease, female sex, noncoronary artery bypass graft surgery, and longer pump times should undergo endoscopic colon examination early in the postoperative period to try to prevent these adverse effects.

Renal dialysis represents another intervention with both direct and indirect complications. Hemodialysis-induced hypoxemia is well-characterized. Similar to MV and CPB, inflammatory mediators have been implicated because the dialysis membrane can activate the complement cascade. Dialysis also may lead to hyperventilation with subsequent hypoxemia.7 Paradoxically, high-volume hemofiltration can remove certain inflammatory cytokines, and there is a porcine sepsis model demonstrating hemodynamic improvement when hemofiltration is applied early.8 Although provocative, there are no human survival data yet to support this approach. Like MV and CPB, GI complications have been described in dialysis as well. Flolb et al9 found right-sided ischemic colitis in patients with chronic renal failure requiring hemodialysis. Another study demonstrated that the risk of acute pancreatitis is increased in patients receiving long-term peritoneal dialysis.10

MV has been associated with several non-GI complications in other organ systems. For example, the CNS may be affected. The positive end-expiratory pressure (PEEP) necessary to ensure adequate oxygenation may result in decreased venous blood return to the heart, decreased