The Paradox of Low-Molecular-Weight Heparins

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By now, most P&T readers are familiar with the clinical efficacy of the low-molecular-weight (LMW) heparins. Indeed, these new compounds are being prescribed in many settings—from acute coronary syndrome to the prevention and therapy of deep venous thrombosis (DVT). LMW heparins are being given in the outpatient setting through supervised programs coupled with intensive patient education. I think it is fair to say that the LMW heparins have created a true “paradigm shift” for the therapy of DVT. There is also mounting evidence of their cost-effectiveness, and most P&T committees have readily put these compounds on the formulary.

In addition to their clinical efficacy and cost-effectiveness, LMW heparins are widely considered to represent an opportunity for dramatic improvements in medication safety. Prevention of venous thromboembolism makes the top of everyone’s list as a clear opportunity for safety improvement. The Agency for Healthcare Research and Quality (AHRQ) ranks appropriate DVT prophylaxis number one on its list of methods to improve medication safety. Despite all of this good news, however, I have become aware of an equally troubling development, which I will call the “paradox” of LMW heparins.

Although LMW heparins have enabled us to decrease the length of stay for our patients with DVT, this does not mean that these system savings actually occur as a result. In short, although our hospital (Jefferson University) does benefit when an admitted Medicare patient with DVT receives LMW heparin therapy, the pharmacy, because of the decentralized nature of our budgetary structure, does not accrue an economic benefit. Many might regard this as the “silo effect” of separate budgets for the pharmacy, the laboratory, and other ancillary services. Even though our pharmacy director might lobby for a portion of these savings, it is unlikely that he or she would receive any economic reward, so to speak, for the clinical implementation of LMW heparins.

For our noncapitated, non-Medicare patients, these compounds might actually be creating an economic disincentive for our hospital. Think about it—when we are paid a fee per diem for patients with DVT, we face a shortened length of stay. Generally, the use of resources by these patients is low, but their admissions are associated with high economic margins. By decreasing their length of stay, we are creating an economic disincentive for the institution as a whole. I believe that, given current funding schemes, these pernicious incentives are nearly impossible to eradicate.

Further evidence to support this paradox is compelling. In fiscal year 2001, LMW heparins did not even appear in the list of the drugs making up the top 20 most expensive products according to their acquisition cost at our university hospital. By fiscal year 2002, the LMW heparins ranked 14 on our list of the most expensive medications. There is no telling where they might end up this year, and it is likely that they might even break into the top 10!

So there you have the paradox of LMW heparins; a great new product with a burgeoning number of suitable scientifically supported indications starts to become an economic burden for our institution. I have seen anecdotal reports from other academic health centers, where the total acquisition costs of these compounds now surpass any economic savings that might be accrued through decreased lengths of stay for the treatment of DVT. As Medicare begins to appropriately cover LMW heparins in the outpatient physician office setting (for the ongoing therapy of DVT), I suspect that most of these patients will never be admitted to an academic medical center again.

Astute readers of P&T recognize that the situation for LMW heparins is not unique and that it might also apply to other classes of new technologies that have rapidly disseminated into practice. What can we do in the near term, then, to better align these economic incentives while continuing to prescribe LMW heparins effectively? Regrettably, our choices are limited.

We need to lobby for a more comprehensive Medicare drug benefit in the outpatient setting. I also believe that we ought to shift the use of these compounds into a disease management–like program, coupled with current programs of therapy for congestive heart failure, diabetes, and the like. I can envision a comprehensive program using all of the tools of disease management for patients receiving LMW heparins for DVT long-term prophylaxis at home.

Finally, I believe that the manufacturers of these heparins need to pursue the safety agenda more vigorously. In short, LMW heparins contribute to a culture of medication safety, and manufacturers could do a better job pursuing this laudable strategy.

I am saddened by the paradox of LMW heparins, and I hope that your P&T committee finds a way to accru a permissible savings created from the diffusion of this new class of drug into practice. I am sure that other paradoxes exist, and I would be interested in hearing your views. My address is david.nash@jefferson.edu.

REFERENCES