

Masters of Heart Failure Series—Part 1 of 4

Carl V. Leier, MD

Nuggets, Pearls, and Vignettes of Master Heart Failure Clinicians

Last fall, the Editors of the journal *Congestive Heart Failure*, Drs. Marc Silver and John Strobeck, asked me to serve as Guest Editor for an issue of the journal. Accepting this honor was linked to the requirement that I had to generate a meaningful theme. The thought of delivering another series of articles on CHF trials and their interpretation, bench-to-bedside (and vice-versa) topics in heart failure, and similar efforts did little to excite me and, in fact, it threatened to exacerbate my narcoleptic condition. Besides, we have many colleagues more skilled at delivering this information and they truly enjoy doing so.

We have fortunately entered the era of “evidence-based medicine”; this theme will likely remain with us for the entire lifetime of health care delivery. While most physicians have now joined this movement, it is remarkable how much of the day-to-day medical care of the patient with heart failure has not yet been addressed by statistically powered (i.e., evidence-based) trials. Much (probably most) of what we do to keep patients as healthy and functional as possible is still based on our experience as clinicians and on the information shared by colleagues (personal contact, consultation, conferences, written material). It is not often that data from a large treatment trial assist me in determining the optimal dose of a drug or doses of combinations in an individual patient, in optimizing the immediate care and management of a complexly ill patient, in addressing the emergency phone call at 2 a.m., and so forth.

Until statistically powered trials can address all aspects and details of patient care, “experience-based medicine” must fill the knowledge void. Unfortunately, much of this information is not available in textbooks, review articles, the Internet and other media. As the passionate fervor of evidence-based medicine soars to its fever pitch, there will be even less incentive to share in print potentially helpful information based on clinical experience. In his submission to this issue, Thomas D. Giles, MD, wrote, “I am fearful that valuable contributions to patient care will be lost and sacrificed on the altar of ‘evidenced-based’ medicine (usually referring to data from clinical trials). While I certainly believe that important concepts emanate from clinical trials, I also believe that there are other sources of guidance for the care of patients. The Reverend Bayes reminded us that intuition and prior experience are an integral part of the analysis of data.”

Parenthetically, most of the questions addressed by trials and the design of trials are largely based on information gleaned from clinical experience.

It is in this spirit that the Editors, Drs. Silver and Strobeck, Le Jacq Communications, Inc., and I present to you the first installment in a four-part series. The fuel for this project has both a historical and a pragmatic thrust; “it would be a shame” if we allowed our venerable colleagues to advance into the autumn of their careers or even retire without learning about their insights, thoughts, and passions regarding patient care, which grew out of decades of focused, intense clinical experience. Instead of less, we need to hear more from Drs. Chatterjee, Cohn, Armstrong, and colleagues.

This series is not intended to serve as a comprehensive treatise on the management of heart failure. In fact, the authors assume that the reader is reasonably well versed in this area of study and practice. The content of each author’s submission was not substantially altered by the editors and staff. Any disagreements that we and fellow coauthors may have regarding any submission were set aside so as to allow a free and open rendering of views and opinions. We are asking you, the reader, to judge and decide for yourself which of the “nuggets and pearls” are palatable and useful in your practice and in the day-to-day care of your patients afflicted with heart failure.

To give you a better sense of the format and content of this series, I am sharing with you the directive I sent to each author in the letter of invitation:

I would like you to contribute a piece on helpful tips, suggestions, maneuvers, and approaches that have been helpful to you (and your patients) over the years in the evaluation, management, and therapy of CHF. Everything is fair game. Much of the material will not have been previously published and is certainly not yet evidence-based. Basically, much of what we do in our day-to-day management of CHF patients is still related to simple clinical experience, doing what works, and our own ‘tricks of the trade.’ It is my intent to get these ideas, experiences, and thoughts into print. The publication should serve as a rich source of clinical insight, experience, and information, and perhaps will serve as a springboard for further studies and evidence-generating trials. With the

exception of the deadline, there are absolutely no rules (referring to the usual editorial instructions for authors) for your submission!

With the hundreds of heart failure experts located across this country and Canada, the selection of authors was a serious challenge. The selection targeted physician-scientists with at least two decades of heart failure experience, a significant publication record of peer-reviewed investigation in heart failure, and known, masterful clinical expertise in human heart failure at the bedside. Under the directive of the Guest Editor and taking advantage of my own lack of discretion, I added my name to the list of authors. A few of those invited could not contribute to the manuscript, thus

accounting for the absence of certain authors. The Editors and I deeply apologize to those who were not invited to contribute because of our inadvertent oversight. If this venture is successful and well received, you are likely to be part of similar endeavors planned over the coming years.

The coauthors and I dedicate this collection of insights and views to our teachers, who have collectively consisted of our patients, students, colleagues, and mentors. I thank Dr. Silver and Dr. Strobeck for this honor, and I thank my esteemed coauthors and colleagues for making this an educational and enjoyable experience for me.

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Guest Editor

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This manuscript will be presented according to the classical clinical approach to patient care in four parts, namely: 1. The Medical History; 2. The Physical Examination; 3. Diagnostic Studies: Laboratory Testing; and 4. Treatment.

Part 1—The Medical History

The value of a good history was mostly taught to me by Dr. Proctor Harvey. I learned to delay the desire to place my stethoscope on the patient's chest, and rather to spend more time listening to the patient's story. It seems that the familiar story patients tell never gets boring or dull. The details of the story create a clear picture of where the heart failure came from (its etiology), where it is now (current symptoms, functional class, major limitations), and where the path shall lead (prognosis, goals, willingness to try new approaches, and fears). So take the time to take a good history. If patients are not nodding "yes" to all your questions, consider that you've gone down the wrong path. And remember their stories; often, the only success you'll know is remembering how awful the story was upon your first meeting!

—Marc A. Silver

Talking to the heart failure patient is the most important and indispensable diagnostic procedure. In my experience, a careful history remains the single most valuable procedure in diagnosing and assessing the heart failure patient. No amount of testing can provide the same insight into the patient's clinical status and response to therapy. Here are some approaches that have served me well.

1) If it's the first time your patient has seen a physician for a while, make sure you understand why. It may be the key to understanding important clinical changes in an individual who can't or won't describe them.

2) In eliciting the history of the present illness, do not simply ask when it started. Patients are often unaware of, or even repress, the insidious onset of an illness. They may be embarrassed at not having sought attention earlier. Rather, it is more productive to focus on the last time the patient felt well and define what is meant by "well." Determine, very specifically, what activities the patients did when they were well, and what activities they did not do and why. If patients are vague, ask very specific questions. Find out what they do at work; what their daily activities are; whether they walk (if so, how far and, importantly, in what time; on level ground or on a grade; one time or regularly), climb stairs, carry groceries, etc. There is a huge difference between what patients say or think they "can do" and what they actually do.

3) Listen carefully to your patient, but don't necessarily accept what he or she says. Patients have a great need to explain or understand their symptoms. Many attribute changes in their activity not to intolerance, but to lack of time, stress, weight gain, age, or specific life events.

4) Do not assume your words describe the patient's symptoms. Don't simply elicit a symptom of chest pain, but rather provide a menu of possible descriptions (e.g., pain, discomfort, tightness, pressure, burning, etc). Similarly, dyspnea may be described as shortness of breath, chest tightness, coughing, etc. Fatigue needs to be clarified as sleepiness, tiredness, exhaustion, or muscle fatigue; precipitating factors and recovery time need to be determined.

5) Once the diagnosis of heart failure is made, the most important aim of the patient interview is to quantify changes in clinical status. It's OK to ask patients how they feel, but this should be considered a pleasantry rather than a symptom quantification. Many patients will state that they feel fine to please you or because their expectations are low. Additional probing is often required to find out how they really feel.

6) The key to assessing symptoms is to know what activities the patient does, quantified precisely, as described above. For each patient, you should know and make note of the most strenuous activity performed on a regular basis, and the activities he or she cannot do, or that elicit symptoms. Specific questions about these activities should be asked on each visit. Explanations of changes attributed to such reasons as lack of time, stress, etc. should be viewed with skepticism.

7) If you can't tell what the patient actually can do, go for a walk along the corridor or up a flight or two of stairs; a 6-minute walk test can also help place a patient's activity tolerance into perspective. Cardiopulmonary exercise testing is certainly more quantitative, but can't be repeated on a regular basis and doesn't help in educating a patient in tracking his or her own symptoms.

8) Most patients (especially men) tend to downplay their symptoms. When possible, make a point of asking a family member or friend their perception of the patient's symptoms, again being as quantitative as possible. This should be done out of the patient's presence, since the third party may not want to be contradictory. Although relatives may seem to be exaggerating symptoms, their descriptions are often more accurate than that of the patient.

9) Although the goal of the patient history is to understand the patients' clinical status, it is your best opportunity to help them understand their condition and to have them participate in their own management. Your solicitation of changes in symptoms and weight emphasizes the importance of this information and will provide parameters as to when they need to inform you of these changes or self-adjust their medications.

Of course, limitations of time and reimbursement for a careful history have made it increasingly difficult to conduct a comprehensive interview. Nonetheless, a careful and comprehensive initial medical history can facilitate efficient and focused follow-up discussions. It may seem old-fashioned to say this, but technology cannot replace talking with the patient.

—Barry M. Massie

There are many important, but sometimes subtle, aspects of a patient's history and physical examination that give clinicians great insight into the diagnosis of heart failure and its severity. Clinicians usually focus

on history and physical findings that detail problems associated with a dropsical state. Symptoms and physical findings related to dyspnea, fatigue, malaise, and edema are, naturally, our general focus. Certainly, the more obvious components of a heart failure patient's history and physical examination are important, but there are many other historical tidbits and physical findings that can be helpful. Some of these often-ignored historical points are presented in Table I.

Table I. Additional "Nuggets" to Remember in the Heart Failure History

- Gastrointestinal symptoms (loss of appetite; bloating; constipation; right upper quadrant pain, tenderness, or fullness; nausea)
- Periodic respirations (snoring, sleep apnea)
- Presence of concomitant infections (upper respiratory infection; bronchitis; cellulitis; tinea pedis/cruris)
- Neurologic and psychiatric complaints (depression; anxiety or panic attacks; confusion; decreased mental acuity)
- Dietary issues (salt or water craving)
- Nocturia
- Syncope, near-syncope

Of course, gathering historical information that documents and clarifies the patient's clinical presentation is an important task when heart failure is suspected. It should be remembered that, though dyspnea is a hallmark of heart failure, it can also be due to other conditions, including pulmonary disease, musculoskeletal disease, and anemia, or simply physical deconditioning.

Non-dyspnea ancillary complaints to pursue include those rooted in gastrointestinal symptomatology. Heart failure in its more extreme stages can cause hepatic congestion with frank hepatopathy, as well as more subtle mesenteric congestion. This difficulty will lead to loss of appetite, bloating, constipation, nausea, and right upper quadrant fullness, pain, or tenderness. Indeed, it is interesting to note that younger patients with slowly progressive idiopathic dilated cardiomyopathy often have gastrointestinal difficulties as their inaugural symptoms.

Periodic respirations oftentimes reflect rather profound systemic flow perturbation and low cardiac output. Sleep apnea can cause substantive pulmonary hypertension and be associated with significant right heart failure and deterioration. A history of snoring and sleep apnea must generally be elicited from the patient's partner or other observer, for obvious reasons. Particularly in the obese patient (and even more so in profound centripetal obesity), the presence of early morning headache, sudden sleep drop-off, and loud snoring should point toward peri-

odic respirations being problematic, necessitating sleep study evaluation and therapy.

Systemic infections are associated with cytokine release (sometimes cytokine storm), and we now know that these evil humors can precipitate substantial ventricular dysfunction and worsening heart failure. It is important to pursue a history that may shed light on upper respiratory tract infections, chronic bronchitis, or early symptoms of pneumonia. Sometimes seemingly minor difficulties are the nidus or problem. Tinea pedis with ensuing foot and lower leg cellulitis is frequently overlooked in the patient with marked peripheral edema. This is particularly important in the patient who has had local venectomy for bypass grafting surgery. Tinea cruris, especially with secondary local bacterial infection, can worsen the heart failure syndrome.

Several neurologic and psychiatric complaints are also important to pursue. Depression, anxiety or panic attacks, confusion, and decreased mental acuity can be related to heart failure and its severity. It is not unusual to see a patient whose diagnosis of congestive heart failure was made only after the individual was admitted to a psychiatric unit for evaluation of "panic attacks"; the panic attacks in these patients often turn out to be hyperventilation symptoms due to orthopnea, paroxysmal nocturnal dyspnea, periodic breathing disorders, or dyspnea on exertion caused by the cardiac failure.

Other helpful historical nuggets include presence of nocturia and salt or water craving. Of course, syncope in a patient with ventricular dysfunction may be ominous and extremely important. Syncope can be the hallmark of malignant ventricular arrhythmias or heart block that requires pacing, antiarrhythmic drug therapy, or a defibrillating device.

—James B. Young

An atypical history at presentation can often lead to misdiagnosis (Table II). It is not uncommon for patients with heart failure to present with a "flu-like illness that I could not shake off"; "asthma" diagnosed for the first time in adult life; bloating, abdominal discomfort, and weight gain; ankle edema, often absent in younger patients; and shortness of breath, which may

Table II. Common Misdiagnoses at Heart Failure Presentation

- Upper respiratory infection, bronchitis, pneumonia
- Asthma
- Liver disease, cirrhosis
- Chronic fatigue syndrome
- "Old age"

not be volunteered as a symptom, although exercise intolerance is often mentioned to the physician.

—Michael B. Fowler

Although fatigue and dyspnea on exertion are the most common symptoms in patients with heart failure, a number of patients present with gastrointestinal symptoms, such as pain in the right hypochondrium, nausea, and vomiting. These patients will usually have an enlarged liver and clinically, they improve after diuresis and other congestive heart failure therapy.

—Hector O. Ventura

The family history in patients with idiopathic dilated cardiomyopathy (IDC) is more important than ever; familial dilated cardiomyopathy (FDC) is much more common than any of us has appreciated, and a carefully taken family history can be very revealing.

As a heart failure/transplant fellow at the University of Utah, I recall IDC patients commonly asking whether it "ran in the family." The answer then was "very infrequently," which was based largely on case reports and small series of patients. My questioning of family history during a patient interview was cursory. In 1992, I read a report of a well designed, prospective echocardiographic study of first-degree relatives of subjects with IDC; one in five relatives was also found to have FDC (*N Engl J Med.* 1992; 326:77). I then realized I had been missing FDC for years! Additional studies have confirmed that from one quarter to one half of patients with IDC will have family members similarly affected (FDC). Even though taking a family history for FDC is less sensitive than echocardiographic screening, I have repeatedly learned in my clinical practice and from experience gained from my FDC research program (established 1993) that a carefully taken family history, with a search for a history of heart failure or unexplained sudden cardiac death in an extended kindred, can be very informative. It is inexpensive and can be accomplished during the first interview in a matter of minutes. A report of this recommendation combined with echo screening of first-degree relatives of patients with newly diagnosed IDC has been published (*J Am Coll Cardiol.* 1999;34:837).

The genetic basis for FDC is rapidly evolving, and a great deal of work remains. Our FDC research group accepts referrals of FDC families and patients (telephone 503-494-3203; email hershber@ohsu.edu; or Web site at <http://www.fdc.to>). The Web site also provides a comprehensive review of FDC for clinicians, information for patients and families, and direct email access.

—Raymond E. Hershberger

NEXT ISSUE: Part 2—The Physical Examination