The management of heart failure in Spain

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1. Organization of health services in Spain

Spain is a member state of the European Union with a population of 39,852,651 [1]. The country is made of 17 autonomous regions with their own governments. Seven of them (Andalusia, Basque Country, Canary Islands, Catalonia, Galicia, Navarre and Valencia), with approximately two-thirds of the Spanish population, have their own health authorities and systems, and the rest are included in the INSALUD (Instituto Nacional de la Salud), depending directly on the Ministry of Health. The regional authorities and the INSALUD constitute the Servicio Nacional de la Salud or public health system. Following the constitutional precept that health is a right of all citizens and a responsibility of the state, the Servicio Nacional de la Salud provides universal coverage, as established in the Ley General de Sanidad (General Law of Health) of 1986.

The public system has most of the healthcare resources and all its workers have a special status equivalent to civil servants. It is financed by public taxes and all citizens have free, unlimited access to it. A recent proposal of the Spanish parliament seeks to extend benefits to all immigrants, regardless of their legal status. The system is structured according to the various levels of care, with general practitioners, primary care centers and local hospitals at the first level. At the secondary level there are outpatient specialized centers, usually based in a regional hospital. This hospital may be of secondary level, with a cardiology service and coronary care unit, or tertiary level, with cardiac catheterization and surgery facilities. In an important proportion of Spanish hospitals the cardiology service does not have an independent coronary care unit. In these hospitals, cardiac patients are admitted to a general critical care unit, which may have cardiologists in its staff, and managed during the acute phase by a general critical care specialist or a cardiologist. Spanish coronary care units provide intubation and assisted ventilation without the need for transfer to a general intensive care unit.

There is a trend to integrate functionally and administratively second-level outpatient centers to in-hospital cardiology services. Although this outline is broadly valid, facilities are not uniformly distributed. For example, tertiary hospitals tend to concentrate in large cities, while there are entire scarcely populated provinces without them.

The Spanish Society of Cardiology has issued guidelines for the management of heart failure, similar to those of European and American societies [2]. In Spain in 1997 there were 83 centers with cardiac catheterization facilities [3] and 46 with cardiac surgery service [4], 12 of them with transplantation programs [5].

There is a small but growing private sector which is widely viewed as complementary to the public sector. Approximately 15% of the global Spanish population buy additional health insurance from private companies, thus having double coverage. The plans give immediate access to outpatient visits and admission to private hospitals without the long waiting periods of the public system, where they can be of several months or even years for some procedures. However, long,
complex, costly processes are managed mostly by the public sector even when the patient has private insurance.

2. Epidemiology

Like in all Western countries, the burden of heart failure in Spain is substantial and probably increasing. It is most likely underestimated in the statistics due to low precision of the diagnosis in hospital discharges and death certificates. According to the National Hospital Morbidity Survey and the National Vital Statistics for the period 1980–1993, the proportion of hospital admissions and hospitalization rates for heart failure rose 71 and 47%, respectively. Heart failure was the leading cause of hospitalization in the population older than 65 years. Regarding mortality, age-adjusted rates decreased by 23% but the total number of deaths increased by 16.5% at the expense of the group older than 80 years. Heart failure remained the third leading cause of cardiovascular death [6].

There are no population studies on the incidence of heart failure in Spain, but assuming that approximately 80% of cases are due to ischemic heart disease, as it is in North European and North American studies, and that the incidence of ischemic heart disease in Spain is substantially lower than in those countries [7], a correspondingly lower incidence of heart failure and, in consequence, a lower impact on health could be expected.

3. Mild, chronic heart failure

Patients with initial heart failure usually first see a primary care physician, who will in most cases do the basic work-up including ECG and chest X-ray. If the physician is comfortable with the diagnosis, he or she may start treatment particularly if the symptoms are mild, the patient is aged and does not have an obvious murmur or suspected ischemic heart disease. In this fashion, a sizable number of heart failure patients are never seen by a cardiologist, at least while they are mildly symptomatic. Although there is a perception that some patients may not be properly managed in this early phase, when reversible causes may be missed and treatment withheld, there are no data on the appropriateness of heart failure evaluation and management in primary care in Spain.

The primary care physician may also refer the patient to an outpatient specialized center, where he or she will be seen by a cardiologist. There are no free-access echocardiography facilities in Spain, so studies are ordered and performed usually by cardiologists in second- or third-level centers. Echocardiography technicians do not exist in Spain except in some highly specialized centers, so the burden of the echocardiographic examinations is borne presently by cardiologists, thus further taxing the already overworked cardiology services. To fill this gap, the Spanish Society of Cardiology is moving to introduce technicians in echocardiography and other imaging methods in the near future. As a first step in that direction, the first school for technicians has opened recently. Once the diagnosis and management are established, the patient usually is followed by the outpatient cardiologist. When further studies or procedures like cardiac catheterization or surgery are indicated, the cardiologist will refer the patient to the regional tertiary hospital. Once the diagnosis and management are established and there is no need for hospitalization or surgery, the patient may be followed by the outpatient cardiologist or referred to the original primary care physician, with whom a plan for follow-up studies or visits has been worked out.

4. Acute or severe heart failure

A patient who develops acute heart failure is very likely to seek care directly in the hospital emergency room or to be quickly referred to it by the primary care physician. Emergency rooms are widely overused by Spanish patients, since there are no restrictions to the access to them and they provide a way to bypass bureaucracy and beat waiting lists. In the large public hospitals of Catalonia only approximately 15% of patients seen in the emergency rooms are admitted [8].

If it is a local, first-level hospital, after emergency assessment and treatment by an emergency room physician, the patient will usually be admitted to the internal medicine service, where he or she will be managed by an internist. When available, he or she will be seen by a cardiologist, who may assist in the management and perform an echocardiogram. Some, but not all, local hospitals have cardiologists, either on a consulting basis or as staff of the internal medicine service.

In a secondary or tertiary center, the patient may be admitted to the cardiology service and be managed by cardiologists, or, due to the shortage of cardiac beds, to the internal medicine service. A substantial amount of patients with heart failure are admitted to internal medicine services for a variety of reasons. A study in 52 Spanish hospitals showed that 5.9% of patients of internal medicine services had a discharge diagnosis of heart failure [9]. Again, a cardiologist may be consulted but not necessarily, less so if the patient is elderly or does not need further studies. Echocardiography is not always available on an emer-
Refractory pulmonary edema and cardiogenic shock will be managed in a coronary care unit or, in its absence, in a general critical care unit. When indicated, cardiac catheterization will usually be done during hospitalization.

If a patient has severe but not acute heart failure, he or she will also be hospitalized, after referral by the primary care physician or outpatient cardiologist, and be managed in a similar fashion.

After leaving the hospital, if the patient has a low-risk profile, can be well managed medically and is not a surgical candidate, he or she may be followed by the primary care physician or outpatient cardiologist. If the patient has a high-risk profile, medical management is difficult with multi-drug regimes or may require further studies or surgery, he or she will usually be followed by a hospital cardiologist. In this setting, overcrowding of cardiac clinics may make careful titration and follow-up of some treatments, like betablockers, more difficult.

There are few data on the appropriateness of the drug treatment of severe heart failure in Spain. A recent Spanish multicentric study on the treatment of mild heart failure with captopril had to be terminated prematurely due to the scarcity of candidates who were not taking ACE inhibitors [10], suggesting that the use rate of these drugs may be higher than generally thought. On the other hand, some studies show that ACE inhibitors and betablockers are underused in the setting of ischemic heart disease [11,12], so it is also probably safe to assume that these drugs are also underused in the treatment of heart failure.

Except for rare efforts usually associated with transplantation programs, there are no heart failure clinics or networks staffed by cardiologists or specially trained personnel in Spain. More and more cardiology services are treating severe heart failure patients with intermittent ambulatory dobutamine infusion. Cardiac rehabilitation programs for heart failure are virtually non-existent. Natriuretic peptide measurements are far from routine and used mostly for research purposes.

If the patient is a surgical candidate, there is wide variation in the access to a surgical program. Surgical centers tend to be concentrated in large cities, but even living near does not assure quick access. Some scarcely populated autonomous regions or provinces must rely on centers in other areas, sometimes hundreds of kilometers away, giving place to inequality in the access to surgical care and to cumbersome administrative irregularities. Waiting periods are variable and may exceed 1 year in some regions. In Spain in 1997 16,614 operations under extracorporeal circulation were performed [4]. In the absence of precise data, it is estimated that in approximately 10% of cardiac operations other than transplantation the indication is heart failure, regardless of the etiology (Dr Emili Saura, personal communication). The number of cardiac transplantations in Spain in 1997 was 318, with a total of 2,406 since 1984 [5]. The number is increasing in recent years, along with all transplantations, reflecting the good results of a very active Spanish policy in the field.

The use of left ventricular assist devices is low in Spain. In 1997 they were used in 21 patients in seven centers, the indication being post-surgery ventricular support in 15 and bridge to transplantation in six [4]. Cardiomyoplasty and Batista operations have not been reported, but the latter may be performed anecdotaly.

5. Socioeconomic aspects

Heart failure is a major health problem in Spain. There are no data on costs of disease processes, but the cost of all cardiovascular drugs in 1998 was 250 billion pesetas (1.5 billion euros) or 25% of the total pharmacy bill of 1000 billion pesetas (6 billion euros) (Revista El Médico, Anuario estadístico 1998), which can give an idea of the impact of heart disease and heart failure on health economics. In an economic study it was estimated that the cost of chronic heart failure was between 1.8 and 3.1% of the Health Department budget for 1993 [13], probably inexact because the calculations were made on an approximated prevalence and not on population data. The same authors in another study [14] estimate that treatment of heart failure with enalapril results in substantial savings for the health system, but again they acknowledge the limitations because they extrapolate data from other countries.

Reducing health expenses in Spain is an issue, even though the percentage of gross domestic product allocated to health (7.6% in 1995) is lower than in some European countries [15]. Although efforts are being made to introduce managed care principles in the public health system, no financial incentives or limited budgets or similar strategies are as yet operative except for occasional programs. Nevertheless, there is a conflict between increasing demand, for heart failure and general healthcare as well, and also increasing economic constraints. Hospitalizations and outpatient visits in the public system are free to the patients, including all medications and procedures. In some areas the public system is insufficient and it contracts care to private centers with package prices for hospitalizations and procedures. For chronic care, the government covers 60% of medications before retirement and 100% thereafter. All physicians, spe-
cialists and generalists in hospitals and clinics alike, can prescribe virtually all drugs for any length of time, making it difficult to attribute treatment costs to the different facilities. Due to the high cost of drugs used in the chronic management of heart failure, increasing with the aging of the population, efforts are being made by the government to reduce it by promoting generic preparations and negotiating better conditions with the pharmaceutical industry, so far with limited success.

The aging of the population combined with prolonged survival of cardiac patients increases demand for geriatric services, extended care facilities and home nursing care programs which are scarce, causing prolonged hospital stays which worsen the chronic short-age of beds. Another effect of aging is the increasing demand for invasive cardiac procedures for elderly patients. Although their efficacy and cost-effectiveness have not always been proven in this age group, increasing social pressure and free access makes decisions difficult when tertiary resources are limited.

In summary, heart failure in Spain is not always managed by cardiologists. There is no nationwide plan for heart failure or, for that matter, heart disease in general, causing dysfunction of the health system and difficulties in accommodating the likely rising incidence associated with the aging of the population. Most care is delivered by the public system. The cost of heart failure is unknown but substantial and probably rising. Drugs for chronic management may be underused and access to tertiary care is not equitable, with important geographical variations. Care facilities for chronic and elderly patients are scarce.

References


