

## **Therapeutic Unit for Heart Failure: From Concept to Realization**

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**Abstract:** Chronic heart failure is a serious and common disease burdened with a heavy morbidity and mortality the concept of therapeutic unity of heart failure (UTIC) was developed, to improving the quality of life and decrease the number of re-hospitalization in patients suffering from chronic heart failure. The therapeutic unit for heart failure (UTIC) is based on a multidisciplinary team and structure for patient education, to ensure adequate support. The experience of Cardiology service, in University Hospital med VI, was started in 2014, with the establishment of a specialized consultation, allowing the recruitment of 430 patients suffering from chronic heart failure. The creation of this type of consulting unit has allowed a better management of disease by a regular followed.

**Keywords:** Chronic heart failure, Therapeutic Unit, Physiotherapists, Dietician.

### **INTRODUCTION**

Heart failure is a severe and frequent patient, burdened with heavy morbidity and mortality, and responsible for a significant financial cost [1]. It is a disease where the prognosis is dark and whose evolution is enameled by many re-hospitalizations, most often for acute heart failure.

Prevalence and incidence have increased in recent decades in France: prevalence among patients aged 60 and over is estimated at 11.9%; and it increases with the age of 4.4% in the 60-69 years to 20.7% in the over 80 years [2]. Data on developing countries are not available. The prevalence of heart failure in Morocco is estimated at 15%. [3]

This chronic condition requires life-long medical checks, multiple therapies to side effect numbers, further increasing cost [4]. Presently, the management of insufficiency is changing due to several factors related to both the patient and his illness. [2]

The combination of a training and education approach on the one hand, and a management approach for care / care relations, involving the creation of specialized structures capable of offering adapted training [2].

### **THERAPEUTIC UNIT OF HEART FAILURE: UTIC**

#### **Concept**

The concept of UTIC is very variable, according to the different teams [5-9]. But most often it is adapted to the local peculiarity of the pathology and its management.

The fundamental basis of this unit is to offer better management of heart failure, through better training and follow-up of patients, optimization of the relationship and medical or paramedical training, two partners [2].

UTIC uses a multidisciplinary team, involving: doctor, the paramedical team, the patient and his entourage.

The specially constituted and trained medical team, in order to make the diagnosis and follow-up, based on: Clinical examination, electrocardiogram, imaging, and biological parameters and the follow-up of the treatment, by clinical and biological monitoring, especially in case of modification of dosage, or intolerance.

This team provides training through a program. It can be outsourced to liberal healthcare professionals (paramedical, social workers, doctors) and / or internalized to medical and paramedical professionals in the cardiology department, but also to all other hospital services [2].

The paramedical professionals involved in the management of patients with heart failure are most often:

- Nurses: traditional nursing, therapeutic education, monitoring of constants and warning signs;

- Dieticians: the hygiene-dietetic rules, the low-sodium diet;
- Physiotherapists: inciting the patient to practice regular physical activity, reassurance, re-training to exercise, segmental and global muscular strengthening. Social workers: assistance with administrative procedures (professional reclassification, disability, therapeutic half-time, financial aid, etc.);

- Psychologists

The role of the patient, becoming essential in the management of his disease, requires the patient to adhere closely to the various modalities of treatment and surveillance in order to avoid the occurrence of complications, hence the need for a therapeutic education program.

This education is a set, which is practiced to enable the patient to acquire competence, in order to be able actively to take charge of his disease, his care and his supervision, in partnership with the caregivers.

### Organization

The implementation of a UTIC can take several forms: therapeutic unit of hospital heart failure,

day hospitalization, transversal education unit, multidisciplinary consultation, network[7].

The major element of this unit is the presence of a place where patients can be visited on a regular basis in the right conditions of reception and stay; ensure the implementation of policies to optimize the medical treatment of the patient, Heart failure, concerted take-up in particular with the contribution of dieticians, psychologist and social staff.

The UTIC makes it possible to set up a training plan for patients and caregivers adapted to local possibilities. This structure can integrate classic hospitalization beds specialized in heart failure, with advantages: [2].

- For patients, it brings a lot of serenity and decreases the apprehension of a hospitalization.
- Decrease the length of stay

### The interest of multidisciplinary management in heart failure: review of the literature

Optimization of patient management through the creation of a structure for follow-up or education of patients is reflected in an improvement in the quality of life, a decrease in mortality, in particular in multi-re-hospitalized patients [10].

**Table-1: Comparative study of the main studies on the concerted management of heart failure [5, 6, 10]**

	Rich	Weinberger	Krumholz
Type	Randomized	Randomized	Randomized
case	282	540	
Objective	Paramedical follow-up	Paramedical follow-up	Patient education
Speakers	Nurse, Dietician	Nurse, Dietician	Nurse
Material	Booklet		Booklet
Middle age	79 years old		74 years old
protocol	Home and telephone visits		Follow-up in a day hospital (55%) or at home (45%)
Length of follow-up	90 days	6 months	1 an
Morbidity Control / test	42 versus 28,9 %*	Increased hospitalisations 30 %	81,8 versus 56,8 %**
Morbidity in the patients Multi-hospitalized	63 versus 16,4 %**		47,7 versus 27,3 %*

### UTIC IN PRACTICE: EXPERIENCE OF THE CARDIOLOGY DEPARTMENT, CHU MED VI, MARRAKECH

#### Presentation

The cardiology department has an intensive care unit of 08 beds, as well as a standard 25-bed hospitalization unit. A general cardiology consultation unit, which monitors all patients, all etiologies combined: heart failure, coronary artery disease, arterial hypertension, rhythm disorders, valvulopathies,

In 2013, as part of the internal development of the cardiology department of the University Hospital Centre Med VI, and in order to adapt the management of heart failure. The initial observation was as follows:

- Long consultation time
- A lack of information or therapeutic education of the patient concerning the hygiene-dietetic rules to be followed at the exit.

-Output is rarely "prepared" with a quasi-constant absence of programming of recommended treatment initiations that cannot be initially prescribed after discharge.

This led us to develop, in 2014, the creation of a specialized consultation structure for heart failure: UTIC, with the staff and in the premises of the services. Allowing accommodating ten patients per working day.

The objective was to allow the introduction of treatments, for example: beta blocker, within a period of less than one month after their release, to ensure a complete therapeutic education, to improve the care-and-care relationship: less stressful environment, and to establish a relationship of confidence

Recruitment comes mainly from patients hospitalized for acute decompensation of the disease, other services including nephrology, oncology, internal medicine, and general cardiology consultation with variable time but never more than a month after a Decompensation.

**The number of patients followed in the unit is currently 430 cases**

The average age of our patients was  $60.16 \pm 14.72$  years, 53.7% were men. An ejection fraction of 30-40% was observed in 28.8% of cases, 25.8% had LVEF <30%, and 13.7% had LVEF > 50%. Ischemic heart disease (53.7%) and valvular heart disease (13%) remain the two most frequent etiologies. With regard to treatment; 70% of our patients were treated with beta-blockers, 66.8% with ACE inhibitors, 17% with Spironolactone, and 69.1% with diuretics.

**• The course of a day in UTIC**

After the patient receives an electrocardiogram, the doctor performs a complete physical examination with weight gain, a needs assessment, a blood test: ionogram, liver assessment, natriuretic peptide.

In some cases, trans-thoracic echocardiography, stress echocardiography, 6-minute walking test are performed. The recent establishment, of the study of the autonomic nervous system, in certain patients.

Education is based on the importance of monitoring weight, informing about the salt-free diet, communicating information about the treatment: number of intakes, time taken, main side effects of medications. This step is currently being performed by the cardiologist.

**• Evaluation of the UTIC**

The evaluation of the unit in our context remains difficult. It will cover internal data collected

through the computer database: NYHA stage improvement, heart rate control, decrease in diuretic dose base, adequacy of treatments, improvement of the fraction of ejection.

**FUTURE PROSPECTS**

**Step 1: Definition of a multidisciplinary team.**

Besides young cardiologist doctors, there will be a paramedical team: inferior, dietician, psychologist.

**Step-2: Establishment of the beds for the hospital of the day**

Organize programs to optimize medical treatment.

Offer individual or group education sessions.

Judging a small decompensation, monitoring the tolerance of the introduction or modification of a treatment.

**Stage 3: Standardization of the educational process**

A paper support with a follow-up and education binder given to each patient. This workbook comprises ten sections allowing the patient [4]:

- Understand your illness.
- Understand its treatment.
- Identify signs of emergency.
- To follow its vital signs.
- Collecting letters of inquiry and reporting.

**Step 4: Adopt standardized heart failure management for the entire multidisciplinary team.**

**Step 5: Develop medical research**

Participation in major international trials focusing on heart failure [2]. The development of an internal research activity in association with the various hospitals and universities [2].

**CONCLUSION**

The creation of the consultation unit for chronic heart failure has allowed better management of these patients, through regular monitoring, improvement of the quality of care and optimization of treatment.

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