University of Medicine and Pharmacy, Târgu Mureş, Doctoral School

MORPHO – CLINICAL CORRELATIONS IN DILATED CARDIOMYOPATHY

– ABSTRACT OF PHD THESIS -

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Keywords: dilated cardiomyopathies, biventricular resynchronization, ivabradine, reverse remodeling, responder

General part.

Chapter 1. is a classification based on morphofunctional criteria, WHO classification, WHO classification revised, ESC classification and AHA classification.

Chapter 2. discusses data on dilated cardiomyopathy. Subsections describe etiopathology, pathological and diagnostic criteria of the disease. After the clinical and laboratory diagnostic methods we pass to evolution, prognosis and possible complications described in the literature. Concluding this chapter we present therapeutic methods existing in current therapeutic arsenal.

Special part of the thesis contains specific data about research on three original studies:

STUDY I. describes the interventional treatment by implanting myocardial resynchronization devices. **Aim of study** was to assess the results of new interventional possibilities for treatment in patients with dilated cardiomyopathy. **Material and method.** Casuistry consists of 51 patients who underwent implantation of myocardial resynchronization devices. Patient choice was made in compliance with the latest guidelines and methodology approved for this pathology. Tracking methods consist of clinical (NYHA functional status), echocardiography and electrophysiological testing (query) methods. **Results** obtained in this study present data on the distribution of casuistry - gender, age, place of origin and etiology of disease. Most were men (86.27%), of which 80% came from urban areas. Mean age was 64 years, with values between 24 and 81 years, an average ejection fraction of 25%, average left ventricular diastolic diameter of 68 mm. Below an evaluation in clinical context, echocardiography and a self-query being reviewed and compared with recommendations and experiences of latest literature in chapter of discussions. We added results of processing questionnaires about clinical responsiveness referring to NYHA functional status of patients post-implantation. Mortality was of 4 from 51 patients (7.84%) during the observed period. High responsiveness was assessed in terms of symptoms (the one that appears early post-implant). Conclusions on the resynchronized casuistry are consistent with the literature, proving the cost-effectiveness on choosing this method added to classical complex pharmacological treatment.

STUDY II. deals with the results of modern pharmacological treatment of dilated cardiomyopathy. **Aim of this study** was to follow patients with dilated cardiomyopathy who received complex medication. **Material and methods.** Inclusion and exclusion conditions were the universally accept guideline criteria for the 145 patients. **Results** were obtained after review in terms of demographics, after same criteria as in the previous study. Hospitalized patients had mean age of 64 years (36 to 86). The data obtained correlate with age groups described in the literature and with a similar prevalence with the patients included pharmacological and necropsy group. 62% of 145 patients come from rural areas, 38% from urban areas. Etiological 57% were ischemic, 25% were of idiopathic etiology. At baseline were 18.62% in NYHA stage IV, 75.86% NYHA III NYHA stage II 8. After pharmacological treatment, NYHA functional stages changed as follows: 10.35% remained stationary, 13.10% were worse. Echocardiography values changes post-treatment were about 1%.

From the group of 145 patients included 95 (65. 51%) were treated with cardio-selective beta blockers, of which only 81 (55, 86%) reached the target dose recommended by guidelines, with titration to target dose continued after discharge. 94 of the 145 patients enrolled (64.82%) were treated with ACE inhibitors of which only 75 (51%) reached target doses during hospitalization (captopril, enalapril, lisinopril and ramipril). This chapter discusses new issues about benefits of treatment with ivabradine, recently introduced with god results in guidelines. **Conclusion.** Finding on clinical staging discusses the benefits of taking pharmacological treatment previously known therapeutic classes completed with If channel blockers.

STUDY III. - discusses data about necropsy material, processing the protocols of necropsy reviews in conformity with clinical diagnosis of dilated cardiomyopathy. **Aim of our study** was interpreting data from necropsy protocol processing. We discuss about distribution of epidemiological and demographic data included in this chapter. **Material and methods**: 52 cases were processed of which 42 were males (80.76%). Mean age was 50.11 years, with values between 29 and 82 years (not including the 3 cases from pediatrics). Most patients were young men at active working age. Results are discussed in terms of macroscopic and microscopic terms, the first one with significant particular aspects, microscopically data without specific data. Endo-myocardial biopsy has no indication for diagnosis of primary dilated cardiomyopathy. Ventricular mass determination methods were compared about echocardiography results compared to necropsy results, and seem to be useful for assessing muscle mass and differential diagnosis with other cardiomyopathies. **Conclusions:** echocardiography screening is

useful to consider etiology of any symptoms suggestive for heart failure. Clinical and pathological diagnosis concordance was only in 57.6% of cases, which could be very important in terms optimal therapeutic attitude.

Final remarks:

- Dilated cardiomyopathy with multiple etiology, is characterized by systolic dysfunction and dilation of cavities. Affects a large number of patients, especially men in 4-5 decade of life, data confirmed by results of device treatment group, pharmacological results and necroptic group.

- Patients requiring pharmacological received treatment over a long period, with multiple admissions and readmissions due to oscillating evolution of this disease. A new tipe of farmacologic treatement with ivabradine significantly decreases the number of hospitalizations and decrease mortality. It is considered a pharmacological way intended to reverse left ventricular remodeling.

- Adding the biventricular resynchronization treatment in consensus with criteria set in the guidelines besides classical pharmacological regimen bring additional benefits to patients. Short-term post-implantation significantly improves symptoms of congestive heart failure - described in our study by interpreting questionnaires on functional status applied to cazuistry. Long-term evolution is the reversible ventricular remodeling due to improved contractile function and reducing cardiac chambers. These results can be proved by echocardiographic examination.

- Pathological aspects emphasize the importance of discover patients as early as possible, before they reach refractory heart failure or fatal events.