PEDIATRIC CARDIOMYOPATHY

F. BENNAOUI[1,2], N. EL IDRISSI SLITINE[1,2],N. RADA[3] , G.DRAISS[3], M. BOUSKRAOUI[3,] F.M.R MAOULAININE[1,2]

1 : Neonatal intensive care unit, Mohamed VI University Hospital, Marrakesh, Morocco.
2 : Research team: children, health and development, Cadi Ayyad University
3 : pediatrie A departement , Mohamed VI University Hospital

INTRODUCTION

- Cardiomyopathy (CMP) in children is a rare and severe disease.

OBJECTIVES

- Assess the hospital frequency and management
- Study the clinical, paraclinic and therapeutical profile
- Study outcomes of CMP in children in southern Morocco.

MATERIAL AND METHODS

- A retrospective study of cardiomyopathy
- At the pediatric Department in Mohammed VI University Hospital of Marrakesh/Morocco.
- Between January 2011 and October 2016.
- We analyzed the clinical, diagnostic, etiological, therapeutic and evolutionary specificities of CMP in children through our series and a review of the literature.

RESULTS

- Our study found 31 cases in five years, or 0.4% of admissions.
- The mean age was 1.9 years (Extremes [1 month, 14 years]), with a male predominance , sex –ratio was 1,3.
- 26 cases was dilated CMP (83%), 4 hypertrophic CMP(13%) and one restrictive (4%).
- The clinical presentation: heart failure in 24 cases (78%) ; 7 children were asymptomatic
- Carnitine deficiency was confirmed in only one case (4%), viral myocarditis was suspected in 41%.
- Treatment was symptomatic in all cases: digitalis, ACE inhibitor, diuretics, beta blocker, a case was also treated with carnitine.
- Evolution was good in 23 cases (75%), 5 cases had complications as Cardiogenic shock , ischemic stroke, cardiac decompensation and a case requiring hospitalization in pediatric intensive care, and 3 deaths (9%).
- 1 child had a heart transplant with a good outcome.

Characteristics	N	(%)
Sex		
Male	n: 18	(58%)
Female	n: 13	(42%)
Cardiomyopathies	**n: 31**	**(100%)**
Dilated	n:26	(83%)
Hypertrophic	n: 4	(13%)
Restrictive	n:1	(4%)
Etiologies		
Carnitine deficiency	n:1	(4%)
Myocarditis	n: 13	(41%)
Non identified	n: 17	(55%)
Outcomes	n:5	(15%)
Ischemic stroke Decompensation cardiogenic chock		
Death	n:3	(9%)

Table I : Characteristics of the main results

BIBLIOGRAPHY

1- Steven E. Lipshultz, M.D., Lynn A. Sleeper, Sc.D., Jeffrey A. Towbin, M.D.,
April M. Lowe, M.S., E. John Orav, Ph.D., Gerald F. Cox, M.D., Ph.D, The Incidence of Pediatric Cardiomyopathy in Two Regions of the United States; *The* new england journal *Of* medicine.
2.T Mondal C Slorach, C Manlhiot, W Hui, P F. Kantor, Brian W.; Prognostic Implications of the Systolic to Diastolic Duration Ratio in Children With Idiopathic or Familial Dilated Cardiomyopathy. Circ Cardiovasc Imaging.
3- S. Mahjoub et al. / Annales de Cardiologie et d'Angéiologie 60 (2011) 202–206
4- Kantor PF, Mertens LL. Clinical practice: Heart failure in children.
Part I: clinical evaluation, diagnostic testing, and initial medical management. Eur J Pediatr 2010;169:269- 79.
5- V. Gournay Myocardiopathie du nourrisson :dans quels cas envisager une transplantation cardiaque
6- den Boer Susanna L. den Boer,Sara J. Baart,Marijke H. van der Meulen,Gabriëlle G. van Iperen,Ad P. Backx, Arend D. ten Harkel,Lukas A. Rammeloo,
:Parent reports Health-related quality of life and heart failure severity score in pediatric DCM; Cardiology in the Young 2017.

DISCUSSION

- Cardiomyopathy is a threathning disease with nearly 40% of children with symptoms of cardiomyopathy receiving heart transplant or dying within the first two years [1].
- In this study, the prevalence was 0.4% of total admissions. This frequency is much lower than in the American literature [1]. In Morocco, the prevalence is unknown in the absence of national CMP registry.
- Dilated CMP is the most common type, usually presenting with congestive heart failure, and the most common cause is myocarditis.
- Dilated familial or idiopathic cardiomyopathy (DCM) causes high morbidity and mortality [2].
- The Echocardiography is most important tool to establish the diagnosis. It provides valuable prognosis information [3]
- The arsenal of management of heart failure,Both acute and chronic, has considerably increased over the last 20 years [4].

By the introduction of several effective molecules improving the management of heart failure.

- Cardiac transplantation is a possible treatment for decompensated heart failure not responsing to variable medications[5], in this study, one child had a heart tranplant.
- Overall mortality was zero for CMP cases dilated in a US study [6], in our study the mortality rate was 9%.

CONCLUSION

- Cardiomyopathy is a rare disease, Its management is difficult especially in our context, given the rarity of pediatric cardiologists, The lack of adapted infrastructures and the diagnosis posssiblities.
- The heart transplant remains challenging in our context.