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Valvular Heart Disease and Pregnancy in the Delivery Room at Yalgado Ouedraogo University Hospital about 12 Cases

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Introduction

Valvular heart disease is characterized by the presence of acquired or congenital lesion of the heart valves. They all reflect narrowings and/or valve insufficiency. These are common heart diseases in developing countries occurring in young subjects and therefore in women likely to procreate.

During pregnancy, several hemodynamics in pregnants women. These changes without consequences on a healthy heart can unbalance in these parturients an already precarious cardiac function depending on the underlying cardiovascular involvement [1].

Valvular heart disease during pregnancy is a complex pathology with a symptomatology capable of affecting the quality of life of the parturient and putting at stake the vital prognosis of the mother and child. In sub-Saharan Africa, only hospital data are available [2]. In Burkina Faso, no studies on valvular heart disease during pregnancy have been conducted. Our study aims to study the association of valvular heart disease and pregnancy in our practice, through epidemiological aspects, management devices and the future of our parturients and newborns.

Patients and Methods

Type and Study Period

This was a cross-sectional study in the delivery room of the obstetric gynecology department of the Yalgado OUEDRAOGO University Hospital between January 1, 2015 and March 31, 2016, in 15 months.

Inclusion Criteria

1. Presence of known acquired valvular heart disease followed or not;
2. Suspicion of valvular heart disease confirmed by Doppler echocardiography;
3. Patient consenting to participate in the study

Conduct of the Study

The diagnosis and causes of valvular heart disease have been affirmed on clinical, echocardiographic arguments.

The diagnosis of infective endocarditis was selected on the criteria of DUKES. The diagnosis of acute rheumatic fever was retained on Jones' criteria

The pregnancy follow-up diary, obstetric ultrasounds and biological examinations performed were used for the study. The patient record of gynecology was also used.

The data collected covered: the mode of discovery of valvular heart disease, its type and etiology, the term of pregnancy, possible complications as well as the modalities of management and the evolution after delivery for the mother and the newborn.

Statistical Analysis

The data was processed and analyzed with the EPI-INFO software in its version 7. Respect for anonymity was respected.

Results

Twelve patients were collected during the study. The average age of our patients was 27.5 (standard deviation) years with extremes of 21 years and 34 years. Gestational age at delivery was 35 ± 4.7 weeks of amenorrhea with extremes of 25 and 39 weeks. The women had no fixed income (7 out of 12 patients) and 5 patients had never been to school. The geographical origin or provenance of the patient was urban for 8 patients. None of the patients were being followed for valvular heart disease prior to pregnancy. Eleven patients did not have contraceptive methods in the two years prior to pregnancy. Acute rheumatoid arthritis was the etiology of 91.7% of valvular heart disease (11 patients). Infectious endocarditis (one patient) was noted as the etiology of valvular heart disease.

The mode of delivery was vaginal in seven cases and caesarean section in three cases. We noted two spontaneous abortions. Seven newborns were hypotrophic with an average birth weight of 2360g. As complications, two Patients were in global heart failure with a complete arrhythmia type rhythm disorder by atrial fibrillation were hospitalized in cardiology. No patient deaths were recorded in our series. No patients have had valve surgery in our series.

11 out of 12 patients did not have contraceptive methods in the two years before their pregnancy;

Table 1. Type of valvular heart disease according to the valve involved

Monovalvular	Type of valvular	Number	Percentage %)
	Mitral shrinkage	3	25
	Mitral insufficiency	2	16,7
	Mitral disease	4	33,3
	Aortic insufficiency	1	8.3
	Polyvalvular Mitral	2	16.7
	Aortic insufficiency		
Total		12	100

therefore, pregnancies in patients with valvular heart disease are not planned in agreement with the cardiologist. Indeed, none of our patients were followed by a cardiologist.

Mitral disease accounted for four cases. Table 1 shows the distribution of valve damage.

Discussion

The average age of our patients is 27.5 ± 3.9 years which is the age of childbearing. He agrees with the data of the literature: 26 years [3], 27.79 ± 2.99 in Egypt [4]; this age is slightly higher in France: 29.2±5.5 years [5].

The first prenatal consultation is done on the periphery in the absence of a cardiologist. Also

The average term of pregnancy being 35.5 ± 4.7 weeks of amenorrhea proves that most deliveries are premature. In addition, this period corresponds to the moment when physiological changes are very important, especially with the increase in volume responsible for a defusing of the heart pump. This would be at the origin of the decompensation of valvular heart disease and at the same time the mode of discovery. The average birth weight is 2360 g with seven hypotrophic newborns. This peculiarity is observed by Belhani [6] in Tunisia, and Al-Lawati in Oman [7]. It is also explained in our context by a precarious nutritional status and the premature delivery of newborns in most cases.

None of the patients were known to have valvular heart disease. This is explained by the lack of a program for the management of valvular heart disease and the fight against rheumatic fever leading to a late diagnosis of these pathologies at the complication stage. Early diagnosis and appropriate follow-up would prevent complications for both mothers and new mothers through proper pregnancy planning.

The perioperative period is grafted with cardiovascular complications in patients with valvular heart disease in the decompensation phase. The risk of major cardiovascular events is about greater than 5% in tight MR with a mitral area of less than 1.5 cm2, while it is less than 1% in mr with little symptoms [8]. Two of our MR patients were operated on for global heart failure with a complete arrhythmia rhythm disorder by atrial fibrillation and were hospitalized in cardiology. For patients with NYHA stage III dyspnea, however, this risk is increased by up to 7% [9]; the presence of symptoms such as heart failure in our patients is a formal indication of caesarean section [10]. Several safety measures must be undertaken during perioperative management such as increasing the pre-load of the left ventricle, fighting tachycardia, rhythm disorders, and hypovolemia; and rapid correction of hypoxia, hypercapnia, so as not to aggravate latent PAH [12]. These measures were taken in our two parturients and the surgical follow-up was simple.

No patient in our series has received valve repair surgery because it is not yet performed in Burkina Faso. These patients benefited from a treatment based on diuretics thus complicating the nutritional management of newborns in our context.

Conclusion

In Burkina Faso, the association of pregnancy and valvular heart disease is becoming more and more frequent due to the persistence of acute rheumatic fever. It is at the origin of an alteration in the quality of life of parturients and engages the vital prognosis of the mother and the child. Pregnancy in patients with valvular heart disease should be planned with the cardiologist. The management of patients involves the prevention of rheumatic fever but also a joint follow-up of patients by gynecologists and cardiologists.

Conflicts of Interest

The authors do not declare any conflict of interest.

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