

## Evaluation of pregnant women with rheumatic valve disease: maternal and perinatal outcomes

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### Abstract

Pregnancy linked to heart disease is, today, one of the first non-obstetric causes of maternal death in developed and developing countries and affects between 1 and 3% of pregnancies in Western countries. So far, there are few published data on the course of pregnancy in women affected by rheumatic valve disease, requiring the study of cardiac patients in developing countries. This study was conducted with records of 173 patients treated at the cardiac diseases specialized pre-natal department in CAISM / UNICAMP, in order to continue a previous study, allowing increased amount of cases and getting better data analysis and association with results pregnancy and perinatal.

*Key words: pregnancy, rheumatic heart disease, valvulopathy*

### Introduction

Rheumatic heart disease is the cause of three-quarters of cases of mitral stenosis. The contraction of the valve decreases blood flow from left atrium to the ventricle, leading to a dilation of the left atrium, increasing the pressure therein, and can result in passive pulmonary hypertension. In women who have this valvular disease, increased preload, which is already normal in pregnancy, coupled with other factors requiring increased cardiac output, can lead to ventricular failure associated with pulmonary edema.

In developed countries, rheumatic heart disease is rare due to the improvement of socioeconomic conditions, cultural and decrease the spread of streptococcal infections. In developing countries, however, rheumatic heart disease is prevalent over other forms.

The aim of this study was to evaluate the occurrence and the pregnancy outcomes of patients with rheumatic heart disease treated at CAISM / UNICAMP between the years 2011 and 2014.

### Results and Discussion

This study was based in a retrospective observational cohort. Among the 173 names scheduled, were observed records of 146 pregnancies, of which 39 had heart valve diseases. Data collection was performed on the clinical records of 30 pregnancies of women with rheumatic valve disease, studying the socioeconomic profile, affected valve and the type of injury, prenatal characteristics, cardiological intervention, test results, birth data and characteristics of their newborns.

The average age was 27 years. Almost half of the patients was in their first pregnancy. However, they all had prior knowledge of the disease.

As expected, the most frequent diagnosis was mitral stenosis, with or without other types of

injury. Seven patients were carriers of biological valve and two had metallic valve.

Regarding to treatment with cardiac medications, 3 patients used diuretics, 2 used anticoagulation, 1 used digitalis and 9 were using beta-blockers. All patients received prophylactic benzathine penicillin during pregnancy.

There was no birth registration in 5 records. Among the rest, 76% have undergone caesarean, of which 26.3% received general anesthesia. The mean gestational age at delivery was 274.5 days, ranging between 33 + 1 and 40 + 2. The Apgar score of 5 minutes was less than 9 for only 3 of the newborn, and in all three cases there is an association with the use of general anesthesia in the mother. The average weight of newborns was 2965g, ranging from 1595-3915g. Only 24% of newborns were classified as small for gestational age.

### Conclusions

This study was of fundamental importance as the continuation of a previous study involving the same data of patients seen between 2004 and 2010, so that we could increase our sample space. It will allow us to analyze the relationships between socioeconomic data, gestational, the valve lesion and maternal and fetal outcomes.

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<sup>1</sup> Stangl V, et al. Maternal heart disease and pregnancy outcome: a single-centre experience. *European Journal of Heart Failure* 10 (2008) 855-860

<sup>2</sup> Avila WS, et al. Pregnancy in patients with heart disease: experience with 1000 cases. *Clinical Cardiology* 26 (2003) 135-142