



BALLOON MITRAL VALVOTOMY IN PREGNANT WOMEN – MATERNAL AND FETAL OUTCOMES

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ABSTRACT

RHD in pregnancy is one of the common causes heart diseases complicating pregnancy. Mitral stenosis is one of the frequent presentations of RHD. Medical management is not sufficient in many cases and definitive management is needed. Open mitral commissurotomy is associated with operative and post op complication which can be minimized with balloon mitral valvotomy. BMV has shown to improve maternal and fetal outcomes in pregnancy with RHD with MS

KEYWORDS : Balloon mitral valvotomy, pregnancy, mitral stenosis

INTRODUCTION

Rheumatic heart disease is highly prevalent in Indian community and pregnant women with established or newly diagnosed RHD pose a challenge to the treating community.[1] Worsening of status of patient occurs due to increased haemodynamic burden due to increased vascular volume, heart rate, mean left atrial pressure and pulmonary pressure which can lead to pulmonary edema.[2] Medical management may not be sufficient in many cases and may require intervention. Open mitral commissurotomy has been shown to have more adverse outcomes than percutaneous BMV.[3] In our study we examined the maternal and fetal outcomes of BMV in pregnancy



Figure 1: Balloon mitral valvotomy being performed

MATERIAL AND METHODS

Five patients underwent BMV during pregnancy at our centre between January 2019 and september 2019. Patients with severe mitral stenosis with mitral valve area < 1 cm², mean transmitral diastolic gradient > 10 mmHg, resting pulmonary artery systolic pressure > 50 mmHg and symptomatic patients with mitral valve area between 1 and 1.5 cm². Patients with more than mild mitral regurgitation and left atrial / left atrial appendage clot were excluded from the study. MVA by planimetry was assessed. Left atrial pressure and transmitral gradient were assessed during cardiac catheterization. Inoue balloon was used for BMV (figure 1)

Post BMV transmitral gradient and left atrial pressure were assessed. Procedure was considered successful when there was > 50% increase in MVA and no significant increase in mitral regurgitation. Patients were regularly followed up post op and after delivery

RESULTS

Mean age of patients was 24 +/- 3 years. Mean gestational

age was 23 +/- 5 weeks (12-36 weeks). Functional class was NYHA class II or III. Two patients had atrial fibrillation. Procedure was successful in all patients. The MVA increased from 0.9 +/- 0.2 to 1.6 +/- 0.2 cm². The peak pulmonary artery pressure decreased from 43 +/- 15 mmHg to 22 +/- 6 mmHg. Mean fluoroscopy time was 7 min. No maternal mortality or cardiac tamponade was there during the procedure. All of them underwent normal vaginal delivery. NYHA class also improved in all of them.

DISCUSSION

Rheumatic MS is the most common valvular heart disease complicating pregnancy in developing countries.[4] Marked haemodynamic changes in rheumatic heart disease can lead to worsening of symptoms around 30 weeks of gestation, during labour and after delivery. Open surgical procedures have poor outcomes and medical management alone does not give satisfactory results or prevent adverse outcomes. BMV gives excellent results and prevents adverse outcomes [5,6]

In our present study also, there was no pre term delivery or abortion. Significant symptomatic improvement in patient clinical condition occurred. This study was consistent with similar previous studies which showed similar outcomes [7][8]

CONCLUSIONS

BMV provides excellent haemodynamic and symptomatic improvement in pregnant women and should be preferred for severe mitral stenosis in pregnant women.

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