

Pregnancy and Mitral Valve Prosthesis

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Abstract: Here is a case of 22 year old female primigravida with term gestation with non progression of labour for emergency caesarean section. Advances in surgical technique, prosthetic heart valve design, and anticoagulation have contributed to an overall improvement in morbidity and mortality in women with heart valve prostheses as well as increased feasibility of pregnancy. Several reports have been published of successful pregnancies in patients with prosthetic valves. The numbers are still comparatively small, however, and a further case is reported in which the outcome was favourable for both mother and fetus.

Keywords: Pregnancy, Prosthetic heart valves.

I. Introduction

Cardiovascular disease complicates ≈1% to 3% of all pregnancies and is responsible for 10% to 15% of maternal mortality. Although rheumatic heart disease has become rare among our indigenous youth, its prevalence in many parts of the world remains unchanged and the increasing frequency with which artificial valves are being used in the management of congenital and postinfective as well as rheumatic heart disease means that there is a growing population of women of child-bearing age who have had valve replacements. These women need to know the risks of pregnancy and the chances of having a healthy baby, but physicians and cardiologists cannot yet advise them honestly because of the limitations of individual experience. Several reports have been published of successful pregnancies in patients with prosthetic valves. The numbers are still comparatively small, however, and a further case is reported in which the outcome was favourable for both mother and fetus.

II. Case Report

The patient had an attack of rheumatic fever during her childhood. Later she developed symptoms due to mitral stenosis. Signs of mitral regurgitation were present, with enlargement of the left ventricle, and hypertension was recorded in both left atrium and pulmonary artery at cardiac catheterization. The recommendation was to proceed with mitral valve replacement, which was accomplished without incident in 2009. Substantial improvement resulted, with decrease in cardiac size. Long-term anticoagulant therapy with warfarin was started. The patient had married in 2008, but after valve replacement she was advised initially against pregnancy but she remained very anxious to have a family and became pregnant. During the pregnancy she remained symptom-free, Early in pregnancy warfarin was substituted with low molecular weight heparin and warfarin being continued from 13th week without any untoward effects. Three weeks from term heparin was substituted for warfarin, which in turn was discontinued at the beginning of labour. Due to non progression of labour she was posted for emergency caesarean section. Our plan of anaesthesia was general anaesthesia and the intraoperative period was uneventful. she delivered a healthy infant. Warfarin was resumed two days later, and the patient made an excellent recovery. When seen six weeks after delivery both mother and child were well.

III. Discussion

Because of the potential hazards associated with the additional burden of pregnancy in a patient with a valve prosthesis and on long-term anticoagulant therapy, we advised strongly against this in our patient for many years. We were strengthened in this concept by the experience of Bennet and Oakley, who reported a fatal termination for both mother and child following caesarean section at 30 weeks in a woman who had undergone mitral valve replacement two and a half years previously. At autopsy the valve was found to be immobilized by thrombus, and they concluded that for the present the insertion of a mitral valve prosthesis precludes future pregnancy. Hedstrand and Cullhed, however, reported a successful outcome for both mother and fetus in three patients with valve prostheses inserted two years previously, the control of anticoagulant therapy and management of the confinement being identical with ours. They reviewed an additional nine successful deliveries in whom five mothers had had aortic and four mitral prostheses. Encouraged by these more favourable results, we felt it reasonable to recommend pregnancy in our patient, as she was very anxious to

embark on this. The regimen to which we adhered to avoid both maternal and fetal haemorrhage was heparin for the first 12 weeks, oral anticoagulants from the 13th to 37th week, and finally reverting to heparin until term. Manifestly the question of pregnancy in women with valve prostheses will remain a subject of controversy for some time. In older and parous women further pregnancy is probably inadvisable. In younger women with no children our contention is that provided a minimum period of three years has elapsed since valve insertion, and on the proviso that strict anticoagulant control is maintained, a single pregnancy is justifiable if the woman appreciates the additional hazards. The administration of prophylactic antibiotic therapy is mandatory in the puerperium to prevent the possibility of endocarditis and valve infection.

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