

**PREGNANCY IN CARDIO-VASCULAR SURGERY**

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The incidence of heart diseases in pregnancy is about 15% fifteen percent and by far Mitral Stenosis is the most common phenomena among acquired heart diseases and congenital heart diseases in pregnancy.

In the early days of the 19th century it was believed that a woman suffering from any kind of heart disease was not allowed to marry and if married not to have full satisfaction in matrimonial relationships. Obviously, pregnancy was absolutely countarindicated and early dilatation and curetage was justified, in order to make life longer for the unfortunate mother and consequently not to let the suffering mother go through extra mental complexities.

Since 1948, right after the contribution of Dr. Charles, P. Baily and many others to the field of Cardio-Vascular Surgery, a new era, a new hope arose among these patients. Dr. F. J. Brown made the bold statement: "There is certainly in the majority of cases, no longer any justification for the termination of pregnancy and sterilization in a woman with congestive heart failure in valvular disease".

Since 1957 approximately eight hundred thoracic and cardiovascular operations have been performed in the Department of Surgery at Pahlavi Hospital, in the University of Tehran, and in some private clinics as well. There has been twenty-four cases of Cardio-Vascular Surgery associated with Pregnancy in our files, twenty-two for Mitral Cammissurotomy, one case of simultaneous mitral Cammissurotomy and Aortic Cammissurotomy and one case of Pulmonary Stenosis.

Patients suffering from Mitral Stenosis frequently have their first heart failure during pregnancy. There is no doubt that many of these

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can be carried through successfully by strict medical care. But one has to remember that these patients will return after their confinement to an increased work load with no increase in their cardiac reserve. Our experience in the last ten years shows that a patient suffering of Mitral Stenosis with a history of failure in the previous pregnancy who is now pregnant again and who had developed failure in the present pregnancy should have a Mitral Cammissurotomy as soon as possible.

Therapeutic abortion should be reserved for those patients who cannot qualify for operations or who refuse sterilization after the operation. Further pregnancies in the patient who has done well may be looked forward to without fear.

The earliest reports of Cardiac Surgery performed in pregnancy appeared in 1952.

Gentilli and Gili believed that the indications for surgery are the same in pregnant as in the non-pregnant patient. In other words, each patient should be carefully evaluated by Cardiologist, Obstetrician and Cardiac Surgeon. A complete plan for total management has to be established.

The majority of Authors feel that the optimum time for an operation is between the eighteenth and twenty-eighth week of pregnancy. This opinion is based on the physiological fact that the maximum cardio-vascular burden experienced in pregnancy occurs between the twenty-eighth and thirty-second weeks of gestation.

Indication for Mitral Cammissurotomy in pregnant women is like any other patient such as:

1. There must be proof of Mitral Stenosis.
2. There must be definite disability due to pulmonary congestion such as marked S.O.B. on exertion.
Attacks of pulmonary edema and repeated hemoptysis.
3. There must be absence of other important diseases of the heart such as M.I. Aortic Valve, lesion of active rheumatism or myocarditis.
4. There must be absence of C.R.H. failure.
5. The presence of embolic phenomena constitutes an indication for operation.

Although much information has now been gathered about Mitral Cammissurotomy in pregnancy, little experience has been accumulated regarding other types of Cardio-Vascular Surgery in the pregnant state. P. S. and I. A. S. D. Coartation of the Aorta and P. D. A. are among the Cardiac lesions corrected successfully during pregnancy.

If the patient refused for Mitral Cammissurotomy to be done, strict medical care, therapeutic treatment, and hospitalisation for the entire period is essential.

Prenatal care has definitely helped to prevent cardiac decompensation in many cases, probably in the form of the elimination of additional burden to heart such as undue weight gain, unnecessary physical and nervous stress. Hypertensive Complications, infections especially of the lung, anemia and any complications that tend to increase the cardiac load, were in a manner of speaking "the last straw that broke the camel's back". One has to remember that prenatal care cannot be over emphasized.

Delivery through the pelvis is the method of choice for cardiac patients. Caesarian Section should be reserved for absolute obstetric indications. A good anesthetist is more important than the type of anesthesia.

Through The majority of mitral Cammissurotomy procedures was performed the right side approach. Merely because:

1. Less trauma to the patient (Supine Position);
2. Easy for anesthetist to handle;
3. Easier for the Surgeon to get best result in opening of the Mitral valve.

We had three miscarriages in our series, two in the first seventy-two hours of post operations and one after a week. Twenty of our patients have had normal delivery. Two died because of severity of the disease and Cerebral emboli.

In July 1958, Leyse et al, first used E.C.C. during open heart surgery for congenital Aortic Stenosis in a patient at the eighteenth week of gestation. The postoperative course was uneventful and the patient delivered near Term. But the infant had multiple Congenital Anomalies and subsequently died at the age of four months. In 1959

Dubouny and Associates performed a pulmonary Stenosis and Closure of I.A.S.D. on a three-month pregnant woman. Past operative course was normal. But patient had spontaneous abortion after three months. Nickols, Adams from Philadelphia reported three cases of E.C.C. in pregnant women for replacement of Mitral Valve and Aortic Valve, with one lost and two normal deliveries.

Nevertheless the number of open heart surgeries in pregnant women are too few, to draw any adequate conclusions. We have not had any experience in this type of surgery yet in Tehran.

CONCLUSION

Improved medical and surgical management has reduced the maternal mortality rates from toxemia, haemorrhage and infections. Although maternal deaths from heart diseases have considerably decreased, still the H.D. is the major cause.

Proper medical treatment and prolonged bed rest in the hospital can be utilized in many pregnant women for prevention of therapeutic of spontaneous abortion.

Surgery has a definite indication as a life saving procedure in some suffering pregnant women.

The question is not whether Cardiac Surgery can or cannot be performed during pregnancy, but rather WHEN it indicated? With an increasing experience and perfection of instruments and techniques, surgery will become of an increasing importance to medical management.

Summery

The Evolution of pregnancy in Cardio-Vasculare Surgery discussed and modern Pertaining Literature revised. 24 personal Cases are analysed and it was thought that any Pregnant woman suffering from Mitral stenosis with a history of failure in the pregnancy should have Mitral Commissurotomy as soon as possible. Meanwhile the causes of our two deaths are discussed.

Resumé

L'évolution de la grossesse dans la chirurgie cardio-vasculaire est discutée, et la littérature moderne concernant ce sujet est révisé. Vingt quatre cas personnels sont analysés et on pense que la femme enceinte, souffrante d'une sténose mitrale qui a eu une défaillance cardiaque pendant les grossesses précédentes, doit subir l'opération de Commissurotomie mitrale, le plus tot possible. Tandis que les causes de nos deux cas mortels sont discutables.

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