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Research Article

A Research Study Conducted on Cardiac Diseases during Pregnancy and Their Harmfull Effects

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ABSTRACT

The purpose of the study was to analyze the cardiac deceases during pregnancy. A total of 408 women in the state of pregnancy and cardiac problems were administrated and treated for their diseases in the pregnancy unit of high risk. Outcomes were almost comparable with the cardiac treatment units obtained in series.The research study reflects that a total of 540 women in the state of pregnancy were admitted in the obstetric unit of hospital. These admissions were made in the period of January 2016 to December, 2017. Out of the total admissions the number of cardiac cases was 408. The patients of heart problems in pregnancy can be managed through a collective team of cardiologists, obstetricians, cardiac surgeons, neonatologists and anesthesiologists. Expert para-medical and nursing staff also plays an important role in the ultimate are of the patients. According to expectations, neonatal asphyxia and prematurity were observed in the numerous cases of mortality of neonatal nature. It is not confirmed that the heart lesions are congenital genetic such as polygenic features or maybe not.

Keywords: Cardiac, deceases, pregnancy, Harmful effects.

INTRODUCTION

Diseases of heart make the pregnancy a complication by one percent. During pregnancy cardiac lesions are detected through rheumatic heart diseases. In the past few decades a decline is observed through rheumatic heart lesions in the favor of congenital diseasesof heart, at present fifty percent of the diseases throughout the globe are developed relating to heart during pregnancy. New surgical methods and improved cardiac lesions in the children healthcare has cured a number of pregnant women during their childbirth, there is a vivid improvement in the treatment of pregnant ladies suffering from heart diseases, even in the case of transplantation in the period of pregnancy.Maternal mortality and morbidity because of cardiac nature diseases has faced a decline in the past two decades over the world[1]. According to Sachs (1988), the rate of maternal mortality has fallen from a count of 5.6 – 0.3 on a total of 100,000 in live birth cases from 1954 – 1985 in Massachusetts. A same sort of decrease has been observed in the studies conducted in U.K on the same topic relating to maternal deaths during pregnancy because of cardiac issues.Still there is a large contribution of heart disease in the deaths of mothers during pregnancy all over the world. In the deaths during maternal condition the frequent repeated factor is cardiac lesions. risk is higher in the case of mortality as it is observed twenty to twenty-five

percent because of pulmonary hypertension and severe stenotic aortic lesions[2].Many of the obstetric healthcare facilities have managed to deal with pregnant cardiac cases with their available and prepared resources. Cardiac surgeons and cardiologists are cooperating in this regard. In few of the hospitals dealing cardiac patients has become a part of their routine. The management of patients in the cardiology or obstetrics department is better and helpful for the patients. Current research study aims at the audit of cardiac pregnant women posing high risk to pregnancy in the setting of a slandered hospital that is also teaching hospital in the time span of two years to find the answer of question on hand[3].

SUBJECT AND METHODS

A total of 408 women are included in this retrospective research paper. These women were admitted in the Gynecology and Obstetrics unit Egyptian hospital located in Mansoura. These patients were treated in the said unit from January, 1996 to December, 1997. Out of 408 sixteen were admitted in ICU of the hospital and every case was treated in the high-risk unit[4]. The patients were under the observation of collective teams of cardiologists, obstetricians, cardiac surgeons, neonatologists and anesthesiologists. Expert para-medical and nursing staff was also made available for the ultimate are of the patients[5].

Data was promptly recorded and every patient was reviewed. Analysis was done under the demographic data from the aspects of cardiac lesions nature from the perspective of anatomical, functional and etiological. According to the standards set by the association for heart of New York the heart functional capacity was classified clinically. Both obstetrics and medical pregnancy and treatment results were noted and recorded[6].Reporting of indirect or indirect causes of maternal mortality and morbidity were associated to diseases of heart in the state of puerperium, labor and pregnancy was completed. Data analysis was done statistically and T-test of non-parametric pupil's type was utilized for the calculation of average and frequencies including comparisons were calculated through Che-Square test.

RESULTS

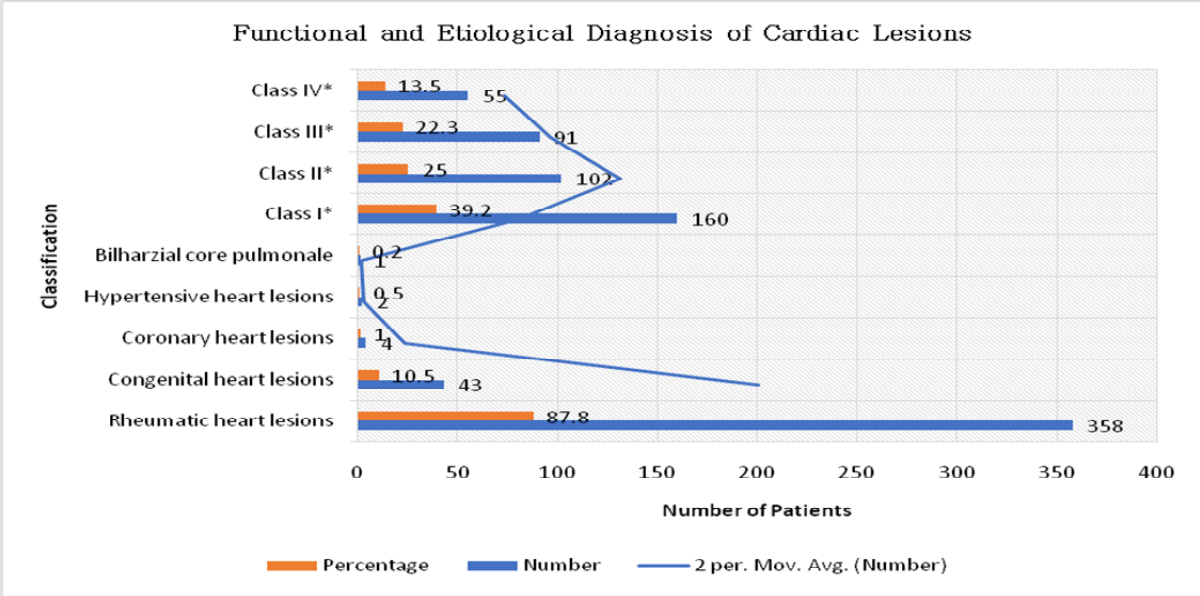
The research study reflects that a total of 540 women in the state of pregnancy were admitted in the obstetric unit of hospital. These admissions were made in the period of January 2016 to December, 2017. Out of the total admissions thenumber of cardiac cases was 408. Admissions made in the high-risk facility were 256 in total. Among these 256 cases 152 were brought in the high-risk unit before the act of delivery; whereas, remaining were brought directly to labor department as there was no need of antenatal department admission. Respective number and proportion was 3.5% (408), 62.7% (256) and 37.3% (152). Majority of the patients were administrated in the obstetrics department; whereas, only sixteen (3.9%) patients were required to be administrated in ICU.

The researched study revolved around the age group that ranged from seventeen to forty-seven years. Mean age of the research study was (28±8·26 years). Majority of the patients were in the age group that ranged from twenty-five to thirty years. A major number of cases were multigravida and multiparas with the mean value of (2±0·8) and (1·8±0·7). Majority of the patients were diagnosed with rheumatic heart disease by the detection of cardiac lesions. According to the classification of NYHA about the functional heart capacity majority of the patients fall in the Class I & II as reflected in Table-I.

Table I. Functional and Etiological Diagnosis of Cardiac Lesions

Classification	Number	Percentage
Rheumatic heart lesions	358	87.8
Congenital heart lesions	43	10.5
Coronary heart lesions	4	1
Hypertensive heart lesions	2	0.5

Bilharzial core pulmonale	1	0.2
Class-I*	160	39.2
Class-II*	102	25
Class-III*	91	22.3
Class-IV*	55	13.5



Pregnancy was terminated in ten women that made the proportion as 2.5 percent of the total during the first trimester. Eight if then already had cardiac issues during the past pregnancies, one had previous record of peripartum cardiomyopathy and other had an uncontrolled Eisenmenger syndrome[7]. In the twelve to twenty cases of Caesarean the anesthesia was used named as Epidural anesthesia. This anesthesia was used over almost 4.9 percent of the patients.

Maternal and peri-natal mortality and morbidity is reflected in Table II and III in terms of number and percentage[8]. Study shows that five patients faced intractable heart failure, out of which two cases were in the period of pregnancy and three were in the time of labor with heavy pulmonary embolism (in one patient). These all causes were attributed to the case of maternal deaths. Atrialfibliration and mitral stenosis was cause of lesions in three of the cases which had heavy pulmonary hypertension[9]. In the cases of artificial valve replacement (aortic) pulmonary embolism was detected. At the end of 1st trimester last patient had warfarin in the presence of less molecular weight heparin from thirty-six gestation weeks[10].

Age also contributed the major cause of mortality and morbidity in the patients. Almost 8.8% were deaths of maternal nature, thirty women faced morbidity that makes a proportion of 51.8% in Class III and IV functionally according to NYHA (1979)[11]. Morbidity was much associated with the vaginal deliveries in comparison to caesarean cases, although this was not significant statistically. The significant p-value was calculated > 0.05. Before the act of delivery sixteen patients were admitted in ICU. Additional ten patients were also admitted in ICU just after delivery because of cardiac activity in the patients[12].

DISCUSSION

The patients of heart problems in pregnancy can be managed through a collective team of cardiologists, obstetricians, cardiac surgeons, neonatologists and anesthesiologists. Expert para-medical and nursing staff also plays an important role in the ultimate are of the patients[13]. The percentage of women admitted in ICU for the management of cardiac issues was 3.9 percent. This policy associated pretty favorable peri-natal and maternal results[14].

Multiple cardiac malformations were reported with the majority of the cases presenting cardiac lesions. On the contrary the findings of Bitsch and McFaul (1989, 1988) were differing from our observations[14]. They found increased incidence of congenital cardiac lesions in the state of pregnancy. The etiological pattern was not present in the under-developed communities and present in the developed communities. Earlier cases were reported for the termination of pregnancy; whereas, late indication pregnancy was continued in the time span of 1st trimester.

Table II. Maternal Morbidity and Mortality

Maternal Morbidity			Maternal Mortality		
Cause	No	Percentage	Cause	No	Percentage
Total	58	14.2	Total	6	1.47
Heart failure	36	62.1	Heart failure	5	83.3
Bacterial endocarditis	4	6.9	Pulmonary embolism	1	16.7
Postpartum haemorrhage	16	27.6			
Postpartum pyrexia	2	3.4			

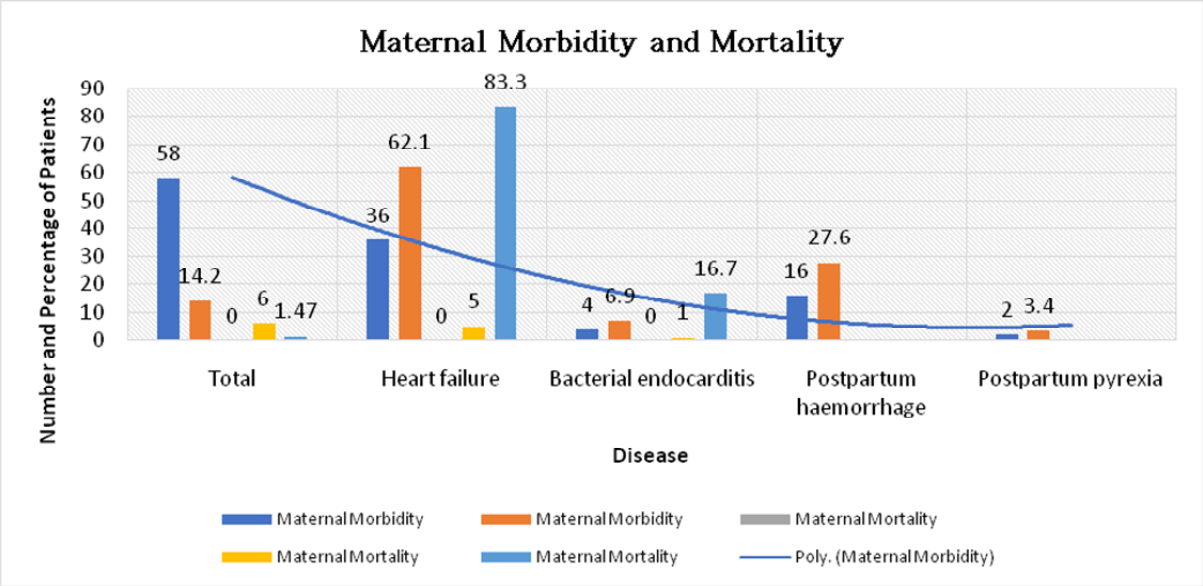


Table III. Perinatal morbidity and mortality

Peri-Natal Morbidity			Peri-Natal Mortality		
Cause	No	Percentage	Cause	No	Percentage
Total	18	4.3	Total	20	4.9
Low Apgar score*	9	50	Still births	4	20
Neonatal jaundice*	5	27.8	Respiratory distress syndrome	4	20
Small for gestational age*	4	22.2	Prematurity (28-37 weeks)	6	30
			Neonatal asphyxia	5	25
			Congenital heart disease	1	5

Peri-natal and maternal results were pretty comparable according to numerous other authors. Due to decreased functional cardiac capacity most of the mortality happened in the presence of cardiac lesions in group 2-B and C in the view of ACOG. On the other hand,Ramanathan and Sullivan almost 0.4% of mortality was observed in Class I & II. According to McFaul back in 1992 in

the sample of 445 patients no death of maternal nature was reported[15]. No mortality was observed and reported in Class I & II; whereas in Class III & IV mortality of maternal nature was reported between the range of 4 – 7 percent. These statistical figures can be compared to the research study. Throughout puerperium and pregnancy early failure of heart was given preventive and special attention. We had given much time in the awareness and promotion of the literature to women and symptoms of early detection for the cardiac disorders[16].

No cardiac surgery was administrated or required during pregnancy. In the time of pregnancy, the administration was previously done in the case of closed mitral valvotomy for the purpose of safety and efficacy. During pregnancy percutaneous transluminal balloon dilation of the mitral valve was described. If the requirement of open-heart surgery appears than it is delayed until the completion of the pregnancy, for the prevention and lifesaving activity only valve was replaced.Until the diagnosis of any obstetrical nature for caesarean delivery vaginal delivery suits in the patients of cardiac nature, this practice is traditionally taught. Decreased chances of mortality and morbidity are associated with the vaginal delivery as it demandsincreased physical effort on the part of women. Same is recommended in the Class III & IV to tolerate the procedure of surgical nature in very sick patients specially in cardiac complications in the extensive facilitation. Same is argued and observed in the current research paper.

CONCLUSION

According to expectations, neonatal asphyxia and prematurity were observed in the numerous cases of mortality of neonatal nature. It is not confirmed that the heart lesions are congenital genetic such as polygenic features or maybe not. Whittemore and his colleagues back in 1982 reported that congenital malformations attribute ten percent of the fetal congenital diseases of heart in the women from the time of their birth. On the contrary in the current studies conducted by Burn (1998), Only one neonatal early death was reported because of great vessels transposition.It is concluded that cardiac cases can be administrated in the obstetrics department in the presence of experts and specialists. Cardiologists are not required for the women that can be handled appropriately without the help of cardiologists.

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