Fetal congenital abnormalities, types & their relationshipwith age, prtity and recurrent abortions

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الخلاصة

هدفت هذه الدراسة الى الكشف عن العلاقة بين الاسقاطات المتكررة و التشوهات الخلفية لدى الاطفال حديثي الولادةفي مستشفى الزهراء للولادة و الاطفال في مدينة النجف الاشرف حيث شاركت200 امرأة ، 100 امرأةتعاني من اسقاطات متكررة و 100 اخرى لاتعاني من اسقاطات متكررة ، حيث تم اخذ العمر و عدد الولادات والاسقاطات السابقة و عدد الاسقاطات بعين الاعتبار. تمت دراسة النتائج وتبين وجود علاقة كبيرة بين حدوث الاسقاطات وخاصة المتكررة منها والتشوهات الخلقية لدى الاطفال حديثي الولادة وليس هناك فرق معنوي فيما يتعلق بالعمر و عدد الولادات السابقة، حيث نستنتج منها ضرورة متابعة و عمل التحاليل الضرورية لكل امرأة تعاني من اسقاطات وخاصة المتكررة منها ودراستها.

Abstract

Objective : To study fetal congenital abnormalities, types and their relationship with age , parity and number of abortions .

Design : Prospective study .

Setting :Alzahraa maternity teaching hospital in Al-Najaf city .

Patient : 100mothers delivered normal babies &100 mothers delivered congenitally abnormal babies .

Result : No significant relationship between fetal congenital abnormalities with age and parity but there is a significant relationship between fetal congenital abnormalities and abortion especiallyrecurrent abortions. Conclusion : We find that there a significant relationship between fetal congenital abnormalities and abortion especially recurrent abortion and for that we adviseevery women with history of abortion for early prenatal screening and diagnostictests.

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Introduction

Spontaneous pregnancy loss is a surprisingly common occurrence. Whereas approximately 15% of all clinically recognized pregnancies result in spontaneous loss, there are many more pregnancies that fail prior to being clinically recognized. Only 30% of all conceptions result in a live birth(1).

Spontaneous pregnancy loss can be physically and emotionally taxing for couples, especially when faced with recurrent losses. Recurrent pregnancy loss , also referred to as recurrent miscarriage or habitual abortion, is historically defined as 3 consecutive pregnancy losses prior to 20 weeks from the last menstrual period. Based on the incidence of sporadic pregnancy loss, the incidence of recurrent pregnancy loss should be approximately 1 in 300 pregnancies. However, epidemiologic studies have revealed that 1% to 2% of women experience recurrent pregnancy loss(2).

Defining recurrent pregnancy loss as a clinical entity requiring diagnostic testing and therapeutic intervention rests on knowledge of the elevation of risk for subsequent fetal loss and the probability of finding a treatable etiology for the disorder. Although no reliable published data have estimated the probability of finding an etiology for recurrent pregnancy loss in a population with 2 versus 3 or more miscarriages, the best available data suggest that the risk of miscarriage in subsequent pregnancies is 30% after 2 losses, compared with 33% after 3 losses among patients without a history of a live birth(3).

This strongly suggests a role for evaluation after just 2 losses in patients with no prior live births. An earlier evaluation may be further indicated if fetal cardiac activity was identified prior to a loss, the woman is older than 35 years, or the couple has had difficulty in conceiving(4).

Approximately 2% to 4% of recurrent pregnancy loss is associated with a parental balanced structural chromosome rearrangement. Additional structural abnormalities associated with recurrent pregnancy loss include chromosomal inversions, insertions, and mosaicism(5).

There is a spectrum of prenatal diagnostic practice which extends from aspects which must be within the grasp of all competent obstetricians , to aspect which are highly complex and require the attention of those with special expertise in the subject, including the specialist in fetal medicine . Prenatal diagnosis not only provides technical challenges of a highly complex nature, it also poses immense human dilemmas to our patients. Much can be acheived by support, clear communication and kindness(6).

These tests includes the non invasise test mail, by serial ultrasound examination & laboratory analysis including cytogenetic, DNA and biochemical analysis, while the invasive diagnostics tests include amniocentesis, chorionic villous sampling and cordocentesis (7).

Our paper done to study the relationship between recurrent abortion and congenital fetal abnormalities.

Patients and methods

. Our study carried out in the Maternity Teaching Hospital in Al-Najaf city. Data collected from 100 women giving a history of delivery congenitally abnormal babies. Parameters used are age, parity and No of abortion. And we compare this group with 100 women control group i.e.: those who deliver normal babies with the same parameters.

Age group divided into 3 groups 1st group those with age of less than 20 years, 2nd group between 20 and 35 and the 3rd group more than 35 years.

Parity also divided into 3 groups, 1sl group those with PI only, 2nd group those with P2-P5 and third group those with more than P5.

Our patient their ages ranged between 18-45 years while their parities ranged between P1-P10.

The No. of abortions also divided into : those with no abortion (A0) , those with history of one abortion(A1) , those with history of two abortion(A2) and lastly those with abortion three and more(A3) .

X^2 had been applied in the statistical analysis at the level of significance P-value<0.05 .

Results

Our study showed that the total number of patients below the age of 20 was only 6 (66.6%) of them delivered normal babies and only 2 (33.4 %) of them delivered abnormal babies , while the age of 20-35 years the total number was 164 , 80 (48.7 %) of them delivered normal babies while 84(51.3 %) patients delivered abnormal babies , and lastly those of maternal age more than 35 years , the total number was 30 , 16 (53.4 %) of them delivered normal babies , and 14 (46.6 %) delivered congenital abnormal babies. The results was statistically not significant (P>0.05).

Table I: Relationship between age group and No. of congenital abnormalities

Age groups (years)	Total No.of cases	Normal babies	Congenital abnormalities	Total percentage
<20	6	4 (66.6%)	2(33.4%)	100%
20-35	164	80 (48.7%)	84(51.3%)	100%
>35	30	16(53.4%))	14(46.6%)	100%

P> 0.05

In table II we found that those with PI only was 36 patients , 14 (38.8%) of them delivered normal babies and 22 (61.1%) delivered congenitally abnormal babies , and those with P2 - P5 , 66 (55 %) patients out of 120 patients delivered normal babies and 54 (45 %) of them delivered congenitally abnormal babies , while those who more than P5 , 20 (45 .4 %) out of 44patients delivered normal babies and 24(54 . 5 %) delivered congenitally abnormal babies . The result was statistically not significant (P>0 .05).

Table II: The relationship between parity and No. Of congenital abnormalities

Parity	Normal cases	With congenital abnormalities	Total
PI	14(38.8%)	22(61.1%)	36
P2-P5 ■	66 (55 %)	54(45%)	120
>P5	20(45.4%)	24(54.5%)	44

P>0.05

Regarding numbers of abortions as shown in Table III , we found that those who had no history of abortion (A0) was 96 patient , 56 (58 . 3 %) of them delivered normal babies and 40 (41 .6 %) of them delivered congenitally abnormal babies , while those with history of one abortion (Al) 32 (47 .1 %) out of 68 patient delivered normal babies and 36 (52 . 9 %) of them delivered congenitally abnormal babies , so there is an increase in the incidence of congenitally abnormality in those patient with Al but is statistically not significant (P > 0 . 05).

While those history of tow abortions (A2)6 (30 %) out of 20 patients had history of delivering normal babies and 14 (70 %) of the remainder having history of delivering congenital abnormality , and those while history of three abortion (A3) and more , 6 (37 . 5 %) out of 16 patients delivered normal babies and 10(62 . 5 %) delivered congenitally abnormal babies . So those with A2 and A3 and more had a significant result (P< 0. 0 5).

Table III: Relationship between No. of abortions and congenital abnormalities

No.of abortion	Normal cases	With congenital abnormalities	Total
A0	56 (58 %)	40(41.6%)	96
Al	32(47.1%)	36 (52.9 %)	68
A2	6 (30 %)	14(70%)	20
A3	6 (37.5 .%)	10(62.5%)	16

P< 0.05

Table IV shows different types of congenital abnormalities , that we found in our study . Neural tube defects include an hydrocephaly, spina bifida and anencephaly are the most common type of congenital abnormalities which contribute 39 % of cases while hydrocephaly contribute 16 % of cases and those with down syndrome 12 % of cases and congenital heart disease 8 %.
Others like cleft lip and palate 6 %, skeletal abnormalities 6 % and microcephaly 6 %.To less extent fetalhydrops 3 % cystic hygroma 2 %, diaphragmatic hernia 1% and esophageal atresia 1 %.

Table IV: Types of fetal congenital abnormalities

Type of congenital		No. of cases
1	Spina bifida	16
9	Hydrocephaly	16
3	Anencephaly	15
4	Down syndrome	12
5	Congenital heart disease	**8**
6	Microcephaly	6
7	Meningocele	6
8	Cleft lip and palate	6
9	Skeletal abnormalities	6
10	Meningomyelocele	2
11	Cystic hygroma	2
12	Fetal hydrous	3
13	Diaphragmatic	1
14	Esophageal atresia	1

Discussion

Several studies have been carried out to determine the prevalence of congenital abnormalities among couples with repeated fetal loss , one of them done by Bergant et al showed that there is a significant relationship between fetal congenital abnormalities and recurrent abortion (4) . Other study done by Van Pampas & G.A. Deskers that showed a significant association between fetal loss and congenital abnormalities of the conceptus(8).

A study done by C. Jacob showed that no significant relationship between petal loss and congenital abnormalities (9).

The result of this study showed that there is difference in the incidence of congenital abnormality with increasing age and parity , but is statistically not significant probably due to small number of cases . Also showed there is association between fetal congenital abortions (A2& 3) . The results of our study goes with that of Bergant et al and with that of G.A. Deskers (4, 8).

Our study also- shows the different type of congenital abnormalities and the neural tube defects being the comments congenital abnormalities (39%) and hydrocephaly is the second in the list while down syndrom contribute only 12% and others include congenital heart disease , microcephaly , fetal hydrops , cystic hygroma , diaphragmatic hernia and oesophageal atresia comes at the end of the list in order of frequency .This goes with the study of Muneera Al-Hussein, MBBS, ABP. a proportion of cases with repeated abortion are caused by chromosomal abnormality in one of the parents and this should help physicians working in the region to realize the contribution of congenital abnormalities to cases of repeated fetal loss. It should also help in setting priorities of cytogenetic screening in individual cases(10).

Conclusion and Recommendations

The result of our study showed there is a significant relationship between abortion especially recurrent abortion and, fetal congenital abnormalities . So we advice every women with history abortion for early consultation for prenatal screening and diagnostic tests .

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