ULTRASOUND EVALUATION OF PREGNANCIES AT RISK FOR CONGENITAL ANOMALIES

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SUMMARY

120 pregnancies, at risk for developing congenital anomalies, were scanned in the second and third trimesters, by real time ultrasound.

The incidence of malformations in this group was 11.6%. Neural tube defects were the commonest anomalies detected, of them anencephaly, hydrocephalus, meningomyelocele and encephalocele each had an incidence of 5.8%, 2.5%, 2.5% 0.8% respectively. The gastro–intestinal malformations encountered were foetal ascites, omphalocele duodenal and oesophageal atresia with a incidence of 0.8% each. Multiple anomalies were found in two cases.

A positive correlation was found between the number of risk factors present and occurence of anomalies.

INTRODUCTION

The prediction and prevention of congenital anomalies has been the obstetricians dilemma for a long time. Since there does not seem to be any practical way out to prevent these problems, the only realistic approach seems to be one of early diagnosis.

Campbell (1983) has reported a incidence of 17%, in pregnancies, at risk for congenital anomalies. Sabbagha and associates (1985) found a incidence of 13.6% in such patients. These are 3 to 4 folds greater than those observed in general population.

It therefore becomes essential to evaluate the foetus during antenatal period. It becomes

extremely important to confirm the presence of a normal pregnancy, in patients, at risk for recurrent congenital anomalies, thereby relieving them of great deal of emotional burden and stress.

METHOD AND MATERIAL

120 patients falling in the high risk group were scanned in the second and third trimesters. The equipment used was real time sector ultrasound scanner type 1849, Bruel and Kjaer make.

CRITERIA FOR SELECTING HIGH RISK CASES

1. Maternal age equal to or greater than 35 years.

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2. History of previous malformed child.

3. History of recurrent foetal wastage.

4. A family history of hereditary disorder.

5. An excess or deficiency of amniotic fluid.

6. A history of maternal ill health in the first trimester.

7. Chronic maternal illness, especially diabetes mellitus.

8. Exposure to known teratogens in early pregnancy.

9. Persistent foetal malpresentation or abnormal attitude.

OBSERVATIONS AND RESULTS

In a total of 120 patients, 14 had detectable congenital anomalies an incidence of 11.6%. In

TABLE I
Congenital malformations detected by ultrasound

Organ System Involved :	Anomalies Detected		Diagnosis missed	
	No.	%	No.	%
A. Central Nervous System				
1. Anencephaly	7	5.83	–	
2. Encephalocele	1	0.83	–	
3. Hydrocephalus	3	2.5	–	
4. Meningomyelocele	3	2.5	1	0.8
B. Gastro Intestinal Defects				
5. Omphalocele	1	0.83	–	
6. Foetal Ascites	1	0.83	–	
7. Duodenal altresia	1	0.83		
8. Oesophageal atresia	1	0.83	1	0.8
C. Thoracic Defect Pleural effusion	1	0.83	–	

* The number of malformations exceeds the number of cases as multiple anomalies were present in some cases.

TABLE II
Distribution of Congenital Abnormalities in High Risk Patients

Risk Factors	No. of Patients with risk factors	No. of Patients in whom anomalies were detected		%
1. Maternal age - >35 years		45	2	4.4
2. H/O Previous malformed child	32	5		15.
3. H/O recurrent foetal wastage	15	1		6.6
4. F/H of heritable disorder	–	–		–
5. Excess of Liquor	35	10		28.
6. Maternal illness in first trimester	35	4		11.
7. Chronic maternal illness-diabetes	11	1		9.0
8. Exposure to drugs	26	3		11.
9. Persistent malpresentation and abnormal attitude	20	2		10.

me of them multiple anomalies were present.
etails are shown in Tables 1 and 11.

The incidence of congenital abnormalities
 pregnancies complicated with polyhydram-
os was 28.5%. The recurrence rate of anomalies
as 15.6%.

In the present study we have found a posi-
ve correlation between the number of risk fac-
rs present and the occurence of anomalies, that
 to say as the number of risk factors increase,
e chances of congenital anomalies being
esent also increase. When two or less risk fac-
rs were present, the chances of anomalies was
-11% whereas as the risk factors increase to
ree or more the chances of anomalies was 16-
8%.

ISCUSSION

Ultrasound used in clinical settings today,
as enhanced the scope of diagnostic obstetrics
nd has become an integral part of patient care.

In the context of a developing country, like
urs, where resources are limited, it may not be

possible to scan each and every pregnancy, hence
it becomes the task of the obstetrician to identify
all pregnancies which require an ultrasound scan.
The risk factors can thus serve as clinical markers
for identifying pregnancies, at risk for develop-
ing congenital malformations and putting them
under ultrasonographic examination.

The high incidence of congenital
anomalies in this group also justifies scanning of
such patient.

The prenatal diagnosis of congenital
anomalies guides the obstetrician in formulating
an intelligent approach regarding the proper con-
duct of delivery, timing of delivery, with the
adoption of appropriate measures to deal with
medical and surgical treatment of new born in-
fant, and also offers the parents a simple and safe
method of termination.

REFERENCES

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