



A Survey of Awareness of Role of Usg & Bio- Chemical Tests in Detection of Congenital Malformations in Fetus in Eastern Part of India

* Dr Anjali Rani

Associate prof ,Dept of obs and Gynae,IMS BHU
* CORRESPONDING AUTHOR

Dr Varsha HL

Junior resident , IMS BHU

Dr Shikha Sahaya

Junior resident ,IMS BHU

ABSTRACT

Objective: Study conducted to know the awareness of role of USG & bio chemical tests in detection of congenital malformations in children Eastern UP population.

Materials and methods: A set of questionnaires were asked to women

(sample size :576) attending Gynaec OPD and those who were admitted in Sir Sunderlal Hospital, BHU, Institute of Medical Sciences, Banaras Hindu University, Varanasi during time period of three months. Results: 86% of our population were aware of USG gestational, but only 18% were aware of biochemical markers that are used to detect congenital malformations.

Conclusion: In our survey we have found that people knew about USG gestational but only 67% were aware of congenital malformations detected in USG gestational and awareness about role of biochemical markers is very low.

KEYWORDS

Ultrasonography, Biochemical markers, Awareness

INTRODUCTION: Obstetric Gestational Ultrasound is the use of ultrasound scans in pregnancy. Since its **introduction** in the late 1950's ultrasonography has become a very useful diagnostic tool in Obstetrics. Ultrasound awareness survey is to know the public's knowledge about gestational ultrasound and its uses in diagnosis the congenital anomalies of fetus. There is no hard and fast rule as to the number of scans a woman should have during her pregnancy.

A first scan is ordered when an abnormality is suspected on clinical grounds. Otherwise a scan is generally booked at about 7 weeks to **confirm pregnancy, exclude ectopic or molar pregnancies, confirm cardiac pulsation** and measure the **crown-rump length** for dating.

A second scan is performed at 18 to 20 weeks mainly to look for **congenital malformations**, when the fetus is large enough for an accurate survey of the fetal anatomy. **multiple pregnancies** can be firmly diagnosed and **dates and growth** can also be assessed. Placental position is also determined. Further scans may be necessary if abnormalities are suspected.

Many centers are now performing an earlier screening scan at around **11-14 weeks** to measure the **fetal nuchal translucency** and to evaluate the **fetal nasal bone** (and more recently, to detect **tricuspid regurgitation**) to aid in the diagnosis of **Down Syndrome**. Some centers will do **blood test biochemical screening** at the same visit.

Further scans may sometimes be done at around 32 weeks or later to **evaluate fetal size** (to estimate the fetal weight) and **assess fetal growth**. Or to follow up on possible abnormalities seen at an earlier scan. **Placental position** is further verified. The most common reason for having more scans in the later part of pregnancy is **fetal growth retardation**. **Doppler** scans may also be necessary in that situation.

The current screening programmes for detection of fetal anomalies use both β -hCG, a sub-unit of glycoprotein human chorionic gonadotrophin, and PAPP-A, both produced by placenta. These are combined with the NT and maternal age in first trimester screening to calculate the risk of fetal chromosomal abnormality.

There are three main tests in screening for chromosomal abnormalities in the second trimester, namely detailed ultrasound, the triple test and the quadruple test.

The biochemical markers used in triple test are β -hCG, alpha fetoprotein (AFP) and free estriol. The quadruple test adds in inhibin A.

MATERIALS AND METHODS

A set of questionnaires were asked to people attending OPD and those who were admitted in Sir Sunderlal Hospital, BHU, Institute of Medical Sciences, Banaras Hindu University, Varanasi.

Total number of people were 576, irrespective of rural/urban literate and illiterate.

Data collected were entered into MS excel, tabulated the columns and percentage was taken.

OBSERVATION AND RESULTS

People in our survey were randomly chosen. They were both from rural (44.4%) and urban (55.5%). Questions were asked for both the partners (Both husband and wife).

Majority of them were literate and few were illiterate (7% males & 15.2% females).. On correlating socio-economic classes of all cases, present study had maximum people in Kuppuswamys middle class (69.44%) followed by 22.22% were of lower class and least were of upper class (8.33%). 86% of total population were aware of USG gestational out of which 78% were aware of sex determination in USG gestation. Out of 86% of USG aware population 67% were aware of congenital malformations detected in USG but in contrast only 18% of total population were aware of biochemical tests used in screening of fetal congenital anomaly. Out of total population 68% of them were aware of MTP in congenitally malformed fetus out of which 72% were in an impression of MTP before 12 weeks and 13% before 20 weeks whereas 15% of population were in a strong belief of MTP any time during pregnancy.

Table 1: Demographic profile n=576

| RURAL/URBAN | No | PERCENTAGE |
|-----------------------------|---------|------------|
| Rural | 256 | (44.44%) |
| Urban | 320 | (55.5%) |
| Socioeconomic status | | |
| Lower | 128/576 | (22.22%) |
| Middle | 400/576 | (69.44%) |
| Upper | 48/576 | (8.33%) |

Table 2: Education

| | Illiterate | Primary | High school/intermediate | Graduate/Post Graduates |
|---------|------------|------------|--------------------------|-------------------------|
| Husband | 40 (6.94%) | 48 (8.33%) | 184 (31.25%) | 304 (52.77%) |
| Wife | 88 (15.2%) | 48 (8.33%) | 128 (16.93%) | 312 (54.16%) |

Table 3: Awareness

| Awareness about | Awareness present | Unaware |
|--|-------------------|---------------|
| USG during pregnancy | 500/576 (86%) | 76/576 (14%) |
| Congenital malformation by USG | 336/500 (67%) | 164/500 (33%) |
| Congenital malformation by Biochemical markers | 104/576 (18%) | 472/576 (82%) |

DISCUSSION

Antenatal information should be given to all pregnant women attending OPD. In our study group of population, 86% are aware of USG gestation and in future, health workers should educate our population such that that near to 100% of population will be aware of the importance of getting an USG gestational. Although 67% of our population are aware of congenital malformation that can be detected in USG but in contrast 78% (significant percentage) of the same population are aware of sex determination in USG, and now its time to get alert about female foeticide. Why awareness of congenital anomaly detection in USG is not popular? And how come sex determination is popular among the same general population? Public should also be made aware of bio-chemical tests available for detection of anomaly since very small percentage 18% are aware of the same. And not to overcome the future morbidity of an anomaly baby and parents MTP should be offered as early as 20 weeks since as the gestation increases morbidity for the mother increases.

CONCLUSION

Ultrasound and bio-chemical markers play an important role in detection of congenital malformation. People are aware of ultrasound but awareness about biochemical markers is very low. So we should increase the awareness so that detection of congenital malformations can be done and can be terminated.

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