

FETAL ANOMALIES RESULTING IN TERMINATION OF PREGNANCY: AN EXPERIENCE IN TERTIARY CARE HOSPITAL

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ABSTRACT

Objectives: To know the spectrum of fetal anomalies as cause of termination of pregnancy.

Material & Methods: This retrospective study includes all pregnant patients having fetal anomalies diagnosed through ultrasound, and admitted to Gynae C unit of Khyber teaching hospital Peshawar - Pakistan, from May 2017 to October 2018 for pregnancy termination (PT). Retrieved data was tabulated and fed in SPSS 20 for analysis.

Results: Mean age of patient was 27.17 ± 5.3 years. Mean gestational age at which PT was carried out was 22.9 ± 4.5 weeks. Early termination was performed in 71 % cases and late termination was done in 29 % cases. Fetal anomalies resulting in PT include CNS anomalies, renal anomalies, hydrops fetalis, Huge sacrococcygeal teratoma and multiple anomalies. CNS abnormalities as a cause if PT includes hydrocephalus, anencephaly, fetal acrania and dandy walker syndrome.

Conclusion: CNS abnormalities are the most common reasons for Pregnancy Termination (PT). Among CNS abnormalities, hydrocephalus and anencephaly are most common causes of PT.

Keywords: Fetal, anomalies, pregnancy, termination, scan.

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INTRODUCTION

Fetal malformation is one of the foremost reasons of perinatal mortality. Congenital abnormalities lead to permanent disabilities, frequent hospitalization and major health burden. Prenatal diagnosis of fetal anomalies is on the increase due to the accessibility of modern diagnostic and screening tests¹. And such prenatal diagnosis persuade the management by mode of delivery, place of delivery and decision to terminate pregnancy². Fetal surgery has been developed as a separate subspecialty of pediatric surgery in the developed world. And this is one of the reason of growing interest in prenatal diagnosis of congenital malformations³.

Ultrasound is routinely used in antenatal care and has the benefits of easy availability, non invasiveness, low cost. Moreover ultrasound has been regarded as

sensitive and specific prenatal diagnostic modality⁴. According to NICE guideline anomaly scan is routinely performed between 18 to 20 weeks of gestation⁵. Other diagnostic procedure like amniocentesis, chorionic villous sampling, fetal skin and liver biopsy are not in common practice, for the reason that these are costly, invasive and not easily available.

PT is perceived differently in different societies and is a subject of debate on religious ground⁶. Litrate rate, religious beliefs and emotional factor are involved in refusal of indicated legal PT. Unfortunately, unsafe pregnancy termination is high in Pakistan. Lack of education, poor socioeconomic status, lack of access to contraception and unwanted pregnancies are the main reasons behind these unsafe terminations of pregnancies⁷. The law of this country allows termination of pregnancy on medical grounds of fetal anomalies with poor outcome of pregnancy and any deleterious effect on the mother's health. Fatwa's are there on termination of pregnancy and has extremely important in counseling parents with faith of Islam⁸. PT is performed as early

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and late, early PT is carried out before 24 weeks and late PT after 24 weeks of gestation⁹. Complication rate increases with late PT¹⁰. The termination rate of pregnancy is increasing and fetal anomalies diagnosed by ultrasound are an important reason behind this. This is most important and controversial issue, but unfortunately there is inadequate research on it. This study was conducted to know the spectrum and frequency of fetal anomalies as a cause of pregnancy termination.

MATERIAL & METHODS

We retrospectively reviewed 84 patients who underwent PT in Gynea C unit of the Khyber Teaching Hospital, Peshawar-Pakistan, during the study period from March 2017 to October 2018. Data was retrieved regarding patient's age, gestational age at which fetal anomaly was diagnosed, type of fetal anomaly diagnosed by scan, method of termination of pregnancy and gender of the fetus. Institutional review board permission was taken for this study.

The collected data were revised, tabulated, coded and fed in PC having statistical analysis program SPSS-20. Data was presented and suitable analysis was carried out according to the type of data. Descriptive statistics: Mean, SD and rang for numerical data like patient age, Period of gestation while Frequency and percentage for categorical data like gender, timing of pregnancy termination (early/late), fetal anomaly type.

During the routine antenatal check ups, ultra-

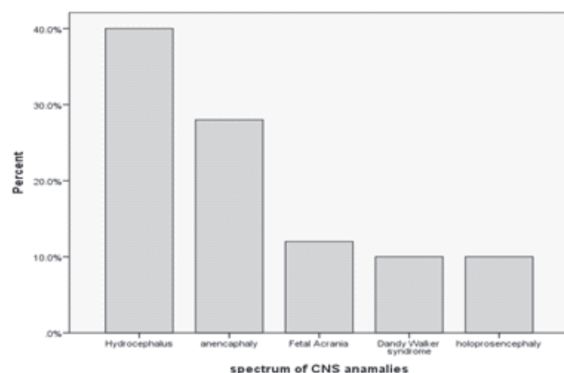


Fig 1: Analysis of CNS abnormalities in fetus.

Table 1: Fetal anomalies spectrum, method and timing of pregnancy termination.

		Timing of pregnancy termination	
		Early termination	Late termination
Fetal anomaly type	CNS	37	13
	Renal	6	2
	Hydrops fetalis	3	4
	Huge Sacrococcygeal Teratoma	3	0
	Multiple anomalies	11	5

sound scan is performed and special anomaly scan carried out in all pregnant patients between 18 to 20 weeks. As soon as the diagnosis of fetal abnormality is confirmed through ultrasound scan, then pediatric surgeon opinion is taken regarding the prognosis of a fetus if born alive.

After confirmation of fetal anomaly and counseling of the couple is done. Severity of fetal anomaly, methods of PT and clarification of Islamic Fatwa's were the points mainly discussed in counselling with the couple to make the decision of PT. After taking consent pregnancy termination was performed in all patients medically or surgically. Method of termination was decided by gravidity, parity and period of gestation. All patients were discharged home after 24 hours monitoring in the unit.

RESULTS

Data of 84 patients who were admitted for PT was retrieved. Mean age of patient was 27.17 ± 5.3 years (Min 19 and Max 38). Mean gestational age at which PT was carried out was 22.9 ± 4.5 weeks (Min 15 weeks and max 36 weeks). Early termination was performed in 71 % (60 out of 84) cases and late termination was done in 29 % (24 out of 84) cases.

Analysis of fetal anomalies showed that CNS anomalies 60% (50 out of 84), Renal 9% (8 out of 84), Fetal hydrops 8% (7 out of 84), Huge Scarococcygeal Teratoma 4% (3 out of 84) and multiple anomalies 19% (16 out of 84).

Further analysis showed that CNS anomalies for which PT was carried out includes hydrocephalus 40% (20 out of 50), anencephaly 28% (14 out of 50), fetal acrania 12% (6 out of 50), dandy walker syndrome 10% (5 out of 50) and holoprosencephaly 8% (4 out of 50) (Graph 1).

Analysis of renal anomalies has clarified polycystic disease of kidney on top with a percentage of 75% (6 out of 8) and renal agensis 25% (2 out of 8). Fetus gender analysis showed female predominance of 54% (45 out of 84) (Table 1).

DISCUSSION

In the current study we analyse structural fetal anomalies which end in pregnancy termination. Ultrasound was the main modality used for diagnosis of structural fetal anomalies. Severity of fetal anomalies and its bad prognosis fully explained to the couple and decision of PT was taken. Current study focus is on structural fetal anomalies as screening for chromosomal anomalies with invasive procedure was not in a common practice in study station. Anomaly scan performed at 18 to 20 weeks of gestational age is the investigation of choice for structural anomalies¹¹. High cost, risk of abortion and refusal of consent for such investigation were responsible for small number of invasive procedures. Invasive techniques are restricted to certain high risk population, like having family history of congenital anomalies¹².

PT can be accomplished both medically and surgically¹³. In medical termination of pregnancy, agents are used parentally, orally and vaginal. Mefipristone, mesoprostol and methotrexate were the common agents used to terminate pregnancy. Medical termination has been related with maternal morbidity, but mesoprostol is named to have less complication rate than other agents¹⁴. Different surgical methods have been reported to terminate pregnancy. Suction termination is one of the commonest surgical method used in early pregnancy while dilatation and evacuation is late pregnancy¹⁵. Surgical termination of pregnancy is quicker and safer when compared with medical¹⁶.

Twenty four weeks of gestation, is used as cutoff to define early and late PT. Reasercher have focused on to fine the reasons behind the late PT. In a study conducted in Europe the early PT was 93% while late PT was 7 %¹⁷. Another study from turkey reports 60 % PT is early gestational period¹⁸. Late termination of pregnancy is mainly due to late diagnosis of anomaly and lack of screening facilities¹⁰. Current study percentage of late PT is 29%. Late PT has a greater subset of surgicak termination.

Literature review of fetal anomalies has clarified that 39 to 54 % of PT was carried out due to CNS abnormalities^{19, 20}. Reported subgroup of CNS anomalies neural tube defects (Anencephaly, Spina bifida), hydrocephalus, dandy walker malformation, holoprosencephaly¹⁸. Current study endorsed the same finding with CNS anomalies as the main reason for PT. Some studies have reported neural tube defect as the most common CNS anomaly leading to PT²¹ while in current study it is on the second position.

Renal tract abnormalities are 15% of prenatal diagnosed congenital malformation and also an important reason to terminate pregnancy²². More and more renal anomalies are diagnosed in this modern era, but some are famous for PT like polycystic kidney disease and renal agenesis²⁰. Current study the 9% cases of

prenatally detected renal malformation end in PT and among these polycystic kidney disease is on top.

Multiple anomalies detected in the fetus, is one the reasons to take decision for pregnancy termination. Anomalies severity directly correlates with PT²³. In current study, 19% patients were subjected to PT for multiple anomalies, which is the largest percentage after CNS anomalies.

Limitation

Single center experience and exclusion of genetic anomalies can affect the result of this study.

CONCLUSION

CNS abnormalities is the top reason to terminate pregnancy, followed by cases with multiple abnormalities and renal anomalies.

Recommendation

Further multi center cross sectional study and inclusion of all fetal anomalies is recommended to clarify the issue further.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

Aman S: Conceptualized the study, data collation analysis and interpretation.

Rahman FU: Literature Review, Drafting Statistical analysis.

Mazhar T: Proof Reading, Revision overall supervision.

Abdullah F: Bibliography, Final approval to Publish article critical review.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.