MATERNAL OUTCOME OF PRENATALLY DIAGNOSED LETHAL FETAL ANOMALIES: A YEAR REVIEW

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Introduction & Objectives

- The widespread use and advance development in prenatal screening had resulted in increasing number of lethal congenital fetal anomalies diagnosed during pregnancy.
- Therapeutic options are limited and these parents will have to decide whether they will continue or terminate the pregnancy.[1]
- However, either termination or continuation of pregnancy will give rise to associated maternal morbidities that might bring more traumas to the vulnerable mothers.
- The purpose of this study was to determine maternal morbidities in relation to prenatal diagnosis of lethal fetal anomalies and termination of pregnancy (TOP).

Methods

- This was a retrospective review in Hospital Tengku Ampuan Afzan, Kuantan, Malaysia in the year of 2011. All patients diagnosed prenatally to carry lethal fetal anomalies was reviewed.
- The outcome of the pregnancy including type of labour, mode of induction and delivery, and associated morbidities during antenatal, intrapartum, and postpartum period was analysed.
- TOP for fetal lethal anomalies were decided based on Section 312 of the Penal Code (Laws of Malaysia) that a termination of pregnancy is permitted in circumstances where there is risk to the life of the pregnant woman or threat of injury to her physical or mental health.[2]
- Analysis was done by using SPSS version 18.0.

Results

- Twenty five pregnant patients were diagnosed with lethal fetal anomalies via ultrasound with or without genetic study.
- Table I presents the demographic characteristics of the study samples.
- The types of lethal fetal anomalies are as shown in Table I. The syndromic fetuses comprises of 2 cases of Pentalogy of Cantrell and 1 case of Edward's syndrome.
- Only 7 (28.0%) patients underwent genetic study (i.e. 3 with amniocentesis, 3 with cordocentesis, and 1 with chorion villus sampling) to investigate for aneuploidy. The remaining 18 (72.0%) patients did not undergo genetic study with the reasons as mentioned in Table II.
- Seven (28%) patients had early counseling and TOP at the gestation of < 22 weeks. Beyond 22 weeks gestation, 8 (32%) had TOP and 10 (40%) had spontaneous delivery. Figure 1 shows the mode of delivery of the study samples. The abdominal deliveries were for transverse lie in labour and emergency hysterotomy for failed induction complicated by hysterectomy due to intraoperative finding of ruptured uterus.
- Figure 2 shows the adverse events in relation to prenatal diagnosis of lethal fetal anomalies and termination of pregnancy. One patient with gestational hypertension developed impending eclampsia requiring intravenous MgSO4 infusion at the gestational age of 35 weeks.
- Mean duration of hospital stay was 6.6±3.7 days. Seven patients (28.0%) required rehospitalisation with the reasons as mentioned in Table III.

Table I. Demographic characteristics of the study samples

Characteristics	n=25
Maternal age (years)	*29.9±6.3
Gravidity	*3.0±2.1
Parity	*1.8±1.8
Race	
Malay	†19 (76.0)
Chinese	†0 (0.0)
Indian	†0 (0.0)
Others	†3 (12.0)
Foreigner	†3 (12.0)
Antenatal profile	
Age > 35 years old	†6 (24.0)
Diabetes Mellitus	†6 (24.0)
Previous history of unexplained IUD	†1 (4.0)
Previous pregnancy with fetal congenital anomaly	†0 (0.0)
Previous scar	†4 (16.0)
Grandmultipara	†2 (8.0)
Gestational age at diagnosis of lethal fetal anomalies (weeks)	*26.5±7.4
Gestational age at TOP or delivery (weeks)	*28.7±7.8
Genetic study	
Yes	†7 (28.0)
No	†18 (72.0)
Type of fetal lethal anomalies	
Fetuses with multiple structural abnormalities	†10 (40.0)
Anencephaly or severe encephalocele	†8 (32.0)
Non-immune hydrops fetalis	†4 (16.0)
Syndromic fetuses	†3 (12.0)

*mean±SD †n (%)

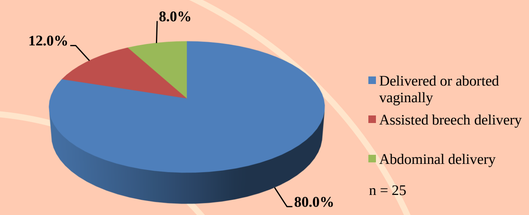

Figure 1. Mode of delivery among the study samples

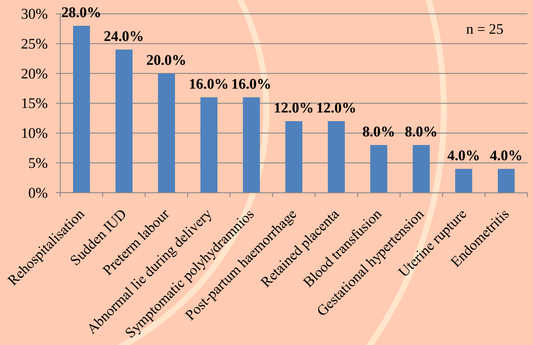

Figure 2. Adverse events in relation to prenatal diagnosis of lethal fetal anomalies and termination of pregnancy

Table II. Reasons of patients did not undergo genetic study

Reasons	n=18
Ultrasound alone had confirmed fetal abnormalities that were incompatible with life	9 (50.0)
Couple refused for prenatal diagnostic Procedure	1 (5.6)
Patients developed intrauterine death	5 (27.8)
Patients developed spontaneous labour	3 (16.6)

Data are expressed as n (%)

Table III. Reasons of rehospitalisation

Reasons	n=7
Patients developed antenatal morbidity	4 (53.1)
Readmission for repeated course of medical Termination	3 (46.9)

Data are expressed as n (%)

Discussion

- The gestational age at confirmed diagnosis of fetal lethal anomaly was relatively late (i.e. 26.5±7.4 weeks), leading to late counseling and TOP. Early diagnosis has potential benefits as termination is safer the earlier it is performed. Risk of termination increase with gestational age. Complication rates increase from 5/1000 medical procedures at 10-12 weeks to 16/1000 at 20 weeks of gestation and over.[3] Similarly, in this study, adverse events of retained placenta, endometritis, and uterine rupture occurred among patients with TOP at 21 – 24 weeks gestation.
- In Byrne and Morrison's study with 13 cases of lethal fetal abnormality, there were 4 cases of IUD, 4 cases of preterm complications (e.g. preterm premature ruptures of membranes, preterm labour, placental abruption, coagulopathy, and severe pre-eclampsia) and 1 case of caesarean section for malpresentation.[4] In Saudi Arabia, lethal congenital anomalies were considered to be the prime factor responsible for 25% of their stillbirths.[5] Our study showed similar outcome.
- In a study regarding polyhydramnios, congenital anomaly seen in 31.7% cases.[6] Our study recorded 4 cases of severe polyhydramnios and all of them required amnioreduction. Study showed that it is the underlying cause (congenital malformation) of polyhydramnios rather than the polyhydramnios itself responsible for 39% of premature labour.[7] Among the 4 cases of polyhydramnios in our study, 3 of them had preterm delivery.

Conclusions

- Prenatal diagnosis and TOP at an early gestation may reduce maternal morbidities and improve the outcome.
- This can be done by carrying out routine anomaly scan at 18^{+0} to 20^{+6} weeks of pregnancy with its detection rate of 83%.[3]
- In some cases, combined anomaly scan and genetic study will further increase the diagnostic accuracy.

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