

# A Medico Legal Study of Fetal Deaths in and Around Guntur

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## Abstract

**Introduction:** There are quite a number of foetal deaths occurring in the developing country like India due to low socio economic status, illiteracy, ignorance, lack of interest, concealment of the birth, having female child etc. This is despite the fact that these occurrences are a world- wide phenomenon and by definition involve criminal law concerns such as illegal abortion, concealment of birth, murder, or neonaticide and abandonment of babies. This study is to make comprehensive and analytical study of various medico legal aspects of foetal and infant deaths in and around Guntur district during the period of 2013-2015.

**Materials and methods:** This is a three year retrospective study of autopsies done on the foetus and infants at the Department of Forensic Medicine, GMC/GGH Mortuary, Guntur from 2013 to 2015. Inquest and autopsy findings are analyzed to evaluate demographic profile and various socio-economic factors contributing to the foetal deaths, the pattern of injuries, manner & cause of death of the foetuses, neonates and infants.

**Observations and conclusion:** Total number of cases of foetal autopsy amounts to around 1.2 % of total autopsy during the study period but in the study, relatively large number i.e., 50% of cases of abortuses, foetuses and newborns indicated that the manner had been homicidal or death by abandonment. Female foetal autopsies amounted to about 52% of total foetal autopsies and homicidal male foetal deaths are 56% of total homicidal foetal deaths. This study is helpful to the investigating authorities to identify such cases for further investigation of the cases.

**Key words:** *Illegal abortion, Foetal Deaths, Neonaticides, Infant homicides.*

## Introduction

There are quite a number of foetal deaths incidents occurring in developing country like India due to low socio economic status, illiteracy, ignorance, concealment of the birth, having female child etc. This is despite the fact that these occurrences are a world- wide phenomenon and by definition involve criminal law concerns such as illegal abortion, murder or neonaticide and abandonment of babies, depending on the country concerned. The present work contributes to current

literature and provides a retrospective case audit for the period 2013-2015 pertaining to all abandoned newborns and fetuses examined in Government General Hospital mortuary, Guntur.

In India, if the body of a fetus or newborn is found abandoned, the police open a docket to investigate the case and the body will be taken to the mortuary for medico-legal post mortem examination. It is imperative to determine whether or not the infant had lived substantially after birth/separation from the woman concerned. Infants who have lived after birth are legal subjects in India and as such they are afforded legal rights and the laws full protection. Consequently their death should be managed under the umbrella of the common law i.e., the crime of murder.

The investigation of these cases includes full assessment of anthropological parameters.

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The gestational age is determined with the use of anthropometric parameters, published percentile charts, autopsy findings including ossification centers and radiological examination as well as histological examination.

Abandoned bodies are often found in varying stages of decomposition having been subjected to post mortem trauma or predation making reliable interpretation of trauma difficult. The validity of and benefit obtained from ancillary investigations (radiology, histology, etc.) to more accurately determine the gestational age and/or the exact anatomical cause for the early pregnancy loss or intra-uterine death is debatable and accordingly are seldom performed in India.

### Material & Methods

Present study is a retrospective observational autopsy based study of autopsies done on all fetuses, neonates and infants at the Department of Forensic Medicine, GMC/GGH Mortuary, Guntur from 2013 to 2015 i.e., for a period of 3 years after the ethical committee approval. The GGH Mortuary register is used to identify cases and retrieve specific research data. In addition, individual case files are examined in order to obtain detailed data. The data obtained is then recorded onto master sheet to allow for collation and analysis.

All the data related to the fetuses and infants are analyzed, paying particular attention to demographics, gestational age and medico-legal perspectives in order to evaluate the cause and manner of death.

**Method of Collection of Data:-** A standard proforma is used to collect information viz, history from police, external appearance of the body, age, sex and injuries. Materials used are Inquest reports, inpatient case sheets, police records, records from hospital, post-mortem reports & information collected from the investigation officer and blood relatives. The results are shown in various tables and discussed.

### Results & Discussion

During the year 2013, out of 1506 cases, 13 cases reported are those of fetal & infant deaths, in the year 2014 out of 1545 cases, 25 cases are reported and in 2015 out of 1025 autopsies, 12 cases are reported which constituted 0.86%, 1.61% and 1.17% of total autopsies

respectively.

During the year 2013, out of 13 infant deaths, male and female ratio is 8 (61.5%) & 5 (31.5%), year 2014, out of 25 infant deaths, male and female ratio is 11 (44%) & 14 (56%), year 2015 out of 12 infant deaths, male and female ration is 5 (41.6%) & 7 (58.4%). This shows neonatal & infant deaths are far more in females when compared to males, except for the year 2013.

Of the total 50 cases, the age wise distribution is, 3 cases below 5 months of intra uterine gestational age with male to female ratio of 2 : 1, 3 cases below 6 months of intra uterine gestational age with male to female ratio of 1 : 2, 4 cases below 7 months of intra uterine gestational age with male to female ratio of 2 : 2, 5 cases below 8 months of intra uterine gestational age with male to female ratio of 3 : 2. Out of 21 total neonates, 16 are in early neonatal period (1-7 days after birth) with male & female ratio of 7:9. 5 neonates are in late neonatal period (7-28days after birth) with male & female distribution of 2:3. 14 post neonatal infants have equal male & female sex distribution. It shows that more deaths are happening in early neonatal period. The results are consistent with those of Pattinson study<sup>16</sup>

Based on history of all the total foetal autopsies, the distribution of place of finding the bodies of the foetuses are hospital deaths 56%, drainage canal in 16% cases, municipality dustbin in 12% , roadside bushes 10% and railway platform in 4% of total cases. 56% of the cases were abandoned by parents at hospital, probably as the child was dead. In 44% of cases the birth was concealed illegally by disposing the baby in drainage canals, dustbins, railway premises and bushes. Such babies probably could be unwanted ones, born to unmarried women, delivered as stillborn or dead born or criminally aborted. These findings were consistent with those of Herman-Giddens & Mary D Overpeck<sup>6</sup>.

After analyzing the inquest, the following sections of Indian Penal Code & Criminal Procedure Code, under which these medico legal cases of fetal & infant deaths were registered was 174 Cr.P.C in 28%, 318 IPC in 26%, 317 IPC in 16%, 302 IPC in 16%, 376 IPC in 6%, 498-A IPC in 4% and 304(A) IPC & 316 IPC in 2% cases each.

The study revealed the manner of death in most of the cases (50%) is neonaticide, followed by natural death

in 36%, accidental fall from cradle in 8% and accidental aspiration, accidental poisoning & electrocution in 2% cases each. These results are consistent with those of Herman-Giddens, Schulte<sup>20</sup>, Anne Tursz & Jon M Cook, Ruth A. Brenner, Du Toit-Prinsloo and Benitez-Borrego study.<sup>6</sup>

As per the study, the cause of death in majority of the cases is Asphyxia (26%), followed by prematurity (24%), head injury (14%), sepsis (14%), abortion (10%), poisoning (4%) and seizures, burns, electrocution & protein energy malnutrition in 2% cases each. These results are consistent with Herman-Giddens, Schulte<sup>20</sup> and Pattinson<sup>16</sup>.

**Table 1: Age incidence**

Age	Male (24)	%	Female (26)	%	Total %
Intra uterine gestational age of 5 months	2	4%	1	2%	3(6%)
Intra uterine gestational age of 6 months	1	2%	2	4%	3(6%)
Intra uterine gestational age of 7 months	2	4%	2	4%	4(8%)
Intra uterine gestational age of 8 months	3	6%	2	4%	5(10%)
Intra uterine gestational age of 9 months	0	0%	0	0%	0(0%)
1-7 days (Early neonatal period)	7	14%	9	18%	16(32%)
28 days (Late neonatal period)	2	4%	3	6%	5(10%)
2-12 months (Infancy)	7	14%	7	14%	14(28%)

**Table 2: Place of death of neonates & infants**

Place of death	No. Of cases	%
Hospital	28	56%
Railway track/platform	2	4%
Bus station	1	2%
Drainage/ pond	8	16%
Municipality dustbin	6	12%
Roadside bushes	5	10%

**Table 3: Manner of death**

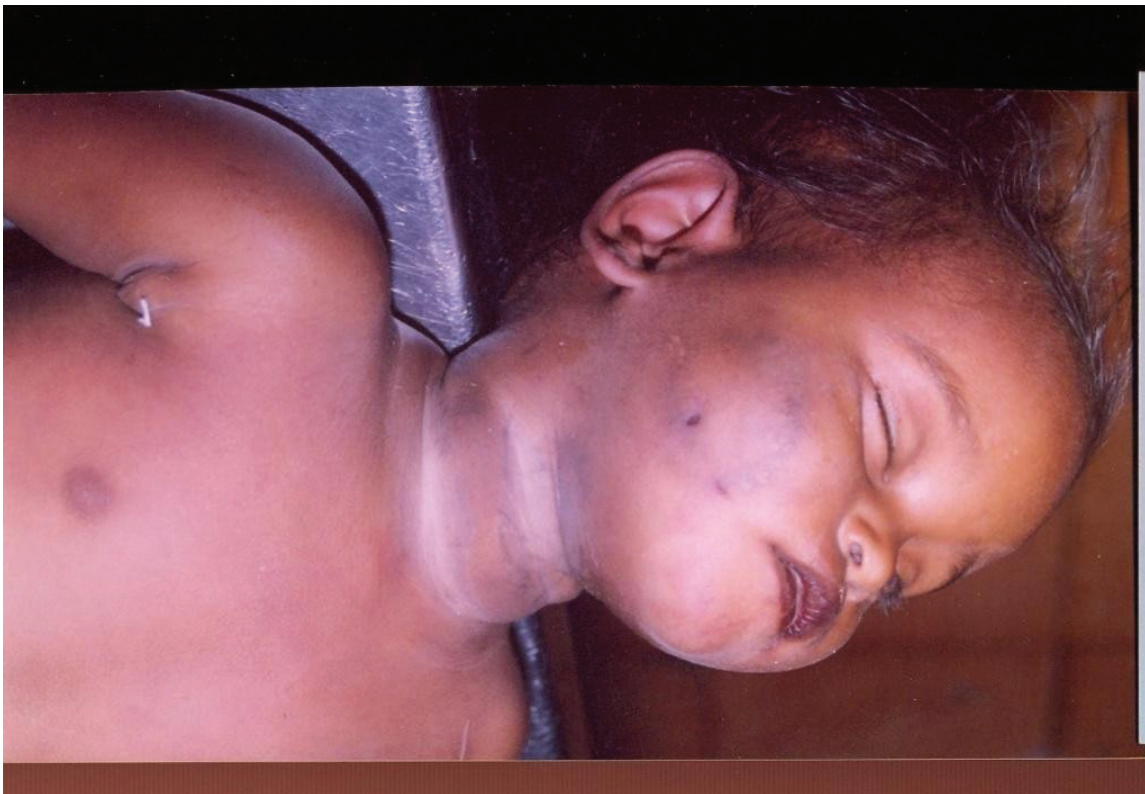
Manner of death	No. Of cases	Male	Female
Natural	18(36%)	7(14%)	11(22%)
Accidental fall from cradle	4(8%)	1(2%)	3(6%)
Neonaticide	25(50%)	14(28%)	11(22%)
Electrocution	1(2%)	1(2%)	0(0%)
Accidental aspiration	1(2%)	1(2%)	0(0%)
Accidental poisoning	1(2%)	0(0%)	1(2%)

**Table 4: Type of abortion**

Type of abortion	No. Of cases	Male	Female
Criminal	3 (33.3%)	2 (22.2%)	1 (11.1%)
Spontaneous	5 (55.5%)	3 (33.3%)	2 (22.2%)
Traumatic	1 (11.1%)	0 (0%)	1 (11.1%)

**Table 5: Child abuse**

Child abuse	No. Of cases	%
Present	5	10%
Absent	7	14%
May be present	8	16%
Not known	16	32%
Not applicable (NA)	14	28%



**Picture1: Bluish contusions over cheeks of 10 months old boy, a case of child abuse**



**Picture2: Head injury of a live born female child, a case of female feticide**

Total no. of infanticides was 25 among 50 constituting 50%. Of these male infanticides constitute 56% & female 44%. These results are consistent with those of Suzanne P Starling<sup>(24)</sup>.

Statistics of stillbirths, live births, IUDs (intra uterine deaths) & criminal abortions are 8%, 66%, 22% & 4% respectively.

As per the study based on inquest and history, the maternal age of the majority (54%) of succumbed neonates & infants is not known. It is between 19-25 years in 28%, >25 years in 8%, 16 years & 17 years each in 4% and 18 years in 2%. In the majority of cases i.e., 54% of cases the maternal age is not known as most of the cases were abandoned foetuses.

Total of 9 abortions were recorded. Based on the gestational period at the time of abortion, the majority of abortions were III trimester abortions (55.5%) followed by II trimester abortions (44.5%). I trimester abortions were nil. Among them all, majority were spontaneous abortions (55.5%). 33.3% were criminal abortions & 11.1% were traumatic abortions.

The study had shown the child abuse was obvious in 10% cases. Child abuse was absent in 14% cases, may

be present in 16% cases and not known in 32% cases. Child abuse was not applicable in 28% of fetal cases.

### **Conclusion**

India manifests a socio-economic dichotomy that shows features of both a developed and developing country. There exists no nationally accepted infant death investigation protocol in India. As a result of this, areas exist, where the lack of resources and expertise prevents the implementation of a highly standardized protocol for the investigation of infant deaths. Efforts should be made to educate the young mothers regarding pre natal, post natal care and proper nutrition. Early recognition of psychotic illness in mother and post natal counseling, strengthening of the Maternal & Child Health Programs should be done. Educating the population regarding family planning methods and improving moral thinking in young unmarried girls to avoid unwanted pregnancies and thereby reducing abandonment & concealed birth cases. Education regarding Family Planning & Pre natal sex determinations tests, which are the reason for female feticides have to be strictly shunned.

**Ethical Clearance:** Ethical committee Guntur Medical College, Guntur .

**Source of Funding:** Self

**Conflict of Interest:** Nil

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