



Original Research Article

Pattern of Autopsies Conducted in Rural Area - A Retrospective Study

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ABSTRACT

Introduction: An autopsy(auto means self, opsy means examination) - also known as a post-mortem examination, necropsy (particularly as to non-human bodies), autopsia cadaverum, or obduction - is a highly specialized surgical procedure that consists of a thorough examination of a corpse to determine the cause and manner of death and to evaluate any disease or injury that may be present.

Materials and methodology: In this retrospective study, all the cases autopsied during the period 1st January 2009 to 31st December 2013 were analyzed at the Department of Forensic Medicine & Toxicology, Adichunchanagiri Institute of Medical Sciences, Mandya District, Karnataka, India. During this study several epidemiological observations and their results have been considered.

Results: Table 1: Out of 525 autopsied cases in last five years, 237 (45 %) cases belong to 31-40 year age groups. Table 2: Out of 525 autopsied cases, 408 (78%) cases belong to male. Table 3: Accident is the manner of death in 390 (74%) cases. In the year 2013 total 147 cases has been autopsied.

Discussion: Totally 525 cases has been autopsied during the last five years. In our present study total accident fatalities comprised 390 (74%). Our study shows the overwhelming majority of the deceased 408 (78%) were males.

Conclusions: Autopsy has been regarded as an important tool for confirming the clinical cause of death. The need for the autopsy examination becomes more important in the presence of suspicious deaths and death in presence of witness and under circumstances in which factors of emotional and physical strain may have played the role.

Key words: autopsy, accident.

INTRODUCTION

An autopsy(auto means self, opsy means examination) - also known as a post-mortem examination, necropsy (particularly as to non-human bodies), autopsia cadaverum, or obduction - is a highly specialized surgical procedure that consists of a thorough examination of a corpse to determine the cause and manner of death

and to evaluate any disease or injury that may be present.

Autopsies are performed for either legal or medical purposes. For example, a forensic autopsy is carried out when the cause of death may be a criminal matter, while a clinical or academic autopsy is performed to find the medical cause of death

and is used in cases of unknown or uncertain death, or for research purposes.

An autopsy is frequently performed in cases of sudden death, where a doctor is not able to write a death certificate, or when death is believed to result from an unnatural cause. These examinations are performed under a legal authority (forensic expert, Medical Examiner or Coroner or Procurator Fiscal) and do not require the consent of relatives of the deceased. The most extreme example is the examination of murder victims, especially when forensic experts are looking for signs of death or the murder method, such as bullet wounds and exit points, signs of strangulation, or traces of poison. Some religions including Judaism and Islam usually discourage the performing of autopsies on their adherents. [1]

Autopsies are used in clinical medicine for the identification of medical error.

A systematic review of studies of the autopsy calculated that in about 25% of autopsies a major diagnostic error will be revealed. [2]

A large meta-analysis suggested that approximately one-third of death certificates are incorrect and that half of the autopsies performed produced findings that were not suspected before the person died. [3] Also, it is thought that over one fifth of unexpected findings can only be diagnosed histologically, i.e. by biopsy or autopsy, and that approximately one quarter of unexpected findings, or 5% of all findings, are major and can similarly only be diagnosed from tissue. One study found that (out of 694 diagnoses) "Autopsies revealed 171 missed diagnoses, including 21 cancers, 12 strokes, 11 myocardial infarctions, 10 pulmonary emboli, and 9 endocarditis, among others". [4]

There are four main types of autopsies: [5]

- *Medico-Legal Autopsy or Forensic or coroner's autopsies* seek to find the cause and manner of death and to identify the decedent. They are generally performed, as prescribed by applicable law, in cases of violent, suspicious or sudden deaths, deaths without medical assistance or during surgical procedures.
- *Clinical or Pathological autopsies* are performed to diagnose a particular disease or for research purposes. They aim to determine, clarify, or confirm medical diagnoses that remained unknown or unclear prior to the patient's death.
- *Anatomical or academic autopsies* are performed by students of anatomy for study purpose only.
- *Virtual or medical imaging autopsies* are performed utilizing imaging technology only, primarily magnetic resonance imaging (MRI) and computed tomography (CT). [6]

Forensic autopsy

A forensic autopsy is used to determine the cause and manner of death. Forensic science involves the application of the sciences to answer questions of interest to the legal system. In law, deaths are classified under one of five manners:

- Natural
- Accident
- Homicide
- Suicide

Forensic experts also attempt to determine the time of death, the exact cause of death, and what, if anything, preceded the death, such as a struggle. A forensic autopsy may include obtaining biological specimens from the deceased for toxicological testing, including stomach contents. Toxicology tests may reveal the presence of one or more

chemical "poisons" (all chemicals, in sufficient quantities, can be classified as a poison) and their quantity.

Most states require the forensic expert to complete an autopsy report, and many mandate that the autopsy be videotaped.

MATERIALS AND METHODOLOGY

In this retrospective study, all the cases autopsied during the period 1st January 2009 to 31st December 2013 were analyzed at the Department of Forensic Medicine & Toxicology, Adichunchanagiri Institute of Medical Sciences, Mandya District, Karnataka, India. During this study several epidemiological observations and their results have been considered.

RESULTS

Table 1: Distribution of cases according to age with respect to the year.

Age group (years)	2009	2010	2011	2012	2013	TOTAL
0-10	02	01	01	01	02	007
11-20	07	06	04	09	15	041
21-30	34	32	26	33	38	163
31-40	47	45	35	45	65	237
41-50	08	06	05	07	19	045
51-60	06	04	04	04	06	024
>60	02	02	01	01	02	008
TOTAL	106	96	76	100	147	525

Out of 525 autopsied cases in last five years, 237 (45 %) cases belong to 31-40 year age groups.

Table 2: Distribution of manner of death, with respect to sex.

Manner of death	Male	Female	Total (%)
Accidental	315	75	390
Suicidal	042	30	72
Homicidal	006	02	08
Natural	045	10	55
Total (%)	408	117	525

Out of 525 cases, 408 (78%) cases belong to male.

Table 3: Distribution of cases according to manner of death with respect to the year.

Manner Of Death	2009	2010	2011	2012	2013	TOTAL
Accidental	86	72	52	78	102	390
Suicidal	11	12	13	11	25	72
Homicidal	01	02	01	02	02	08
Natural	08	10	10	09	18	55
Total	106	96	76	100	147	525

Accident is the manner of death in 390 (74%) cases. In the year 2013 total 147 cases has been autopsied.

DISCUSSION

Totally 525 cases has been autopsied during the last five years. In our present study total accident fatalities comprised 390 (74%). Our study shows the overwhelming majority of the deceased 408 (78%) were males. It is due to greater male exposure on urban streets and similar higher incidence of traffic accidents among males has been found by many other researchers. During 2011, a total of 4, 97,686 road accidents were reported by all States/UTs. The proportion of fatal accidents in the total road accidents has consistently increased since 2002 from 18.1 to 24.4% in 2011. The severity of road accidents measured in terms of persons killed per 100 accidents has also increased from 20.8 in 2002 to 28.6 in 2011.^[2] The most common age group affected in the study was between 31-40 years 237 (45 %) and is consistent with the studies available from India and other countries.^[7,8,9,10] This age group is the most active phase of life, physically and socially, and hence outnumbers the other road users. Considering the maximum involvement of individuals in the economically productive years, vehicular collision fatalities may have an important economic impact. Preventive measures targeting at these high-risk groups are important to reduce the incidence of severe RTA.

CONCLUSIONS

Autopsy has been regarded as an important tool for confirming the clinical cause of death. The need for the autopsy examination becomes more important in the presence of suspicious deaths and death in presence of witness and under circumstances in which factors of emotional and physical strain may have played the role. When an autopsy is done the cause of death would be various reasons.

Competing Interests - The authors declare that they have no competing interests. Both authors have read and approved the final manuscript.

Consent - was taken from the institutional ethics committee.

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