

Research Article**Epidemiology of Autopsies Conducted in a Rural Medical College**Vijay Kumar AG¹, Shivaramu MG², Kumar U³¹Assistant Professor, Department of Forensic Medicine & Toxicology, Adichunchanagiri Institute of Medical Sciences, B G Nagara, Nagamangala Taluk, Mandya, Karnataka State, India²Principal and Professor, Department of Forensic Medicine & Toxicology, Adichunchanagiri Institute of Medical Sciences, B G Nagara, Nagamangala Taluk, Mandya, Karnataka State, India³Associate professor, Department of Forensic Medicine & Toxicology, Adichunchanagiri Institute of Medical Sciences, B G Nagara, Nagamangala Taluk, Mandya, Karnataka State, India***Corresponding author**

Dr. Vijay Kumar AG

Email: vijay.fmt@rediffmail.com

Abstract: The word “autopsy” means – auto means self and opsy means examination. The word "autopsy" was collected from the Ancient Greek *autopsia*, "to see for oneself". In this retrospective study, all the cases which are autopsied during the period 1st January 2014 to 31st December 2014 were analyzed at the Department of Forensic Medicine & Toxicology, AIMS, B G Nagar, Karnataka. In the present study road traffic accident cases accounts for maximum number (64 cases). Due to the presence of Bangalore-Mangalore national highway close to medical college, every day we get to see many number of road traffic accident cases. Autopsy has long been regarded as an important tool for confirming the clinical cause of death, education and quality assurance.**Keywords:** Autopsy, RTA, Drowning, Poisoning.

INTRODUCTION

The word “autopsy” means – auto means self and opsy means examination. The word "autopsy" was collected from the Ancient Greek *autopsia*, "to see for oneself" [1].

An autopsy is a post-mortem examination, necropsy, that consists of a thorough examination of a body to determine the cause and manner of death and time since death. In India, it is usually performed by a specialized medical doctor called forensic expert.

There are four main types of autopsies are conducted in India:

- Medico-Legal Autopsy in order to find the cause and manner of death and time since death. 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 [2].
- Clinical or Pathological autopsies are performed to diagnose a particular disease [2].
- Anatomical or academic autopsies are carried out by students of anatomy for study purpose only [2].
- Virtual or medical imaging autopsies are performed utilizing imaging technology only,

primarily magnetic resonance imaging (MRI) and computed tomography (CT) [3].

The concept of a medico-legal autopsy has been mentioned in the sections 174 and 176 Code of Criminal Procedure (Cr.P.C.) during investigations of a suspected death [4].

Objectives of a Medico-Legal Autopsy

To establish the identity of an unknown body, to ascertain the time since death, cause of death and whether the death was natural or unnatural and if unnatural, whether it was homicidal, suicidal or accidental [5].

In a complete autopsy all body cavities and all organs of the trunk, chest, and head are opened [6]. In all cases, a complete and not a partial examination are more necessary in this country on account of the imperfectness of the preliminary evidence as to the possible cause of death [6, 7].

There is confusion regarding official permission for the performance of post-mortem during evenings or nights. As per the norms, during night conduction of post-mortem is not permitted. A people's representative in the past appealed to the Government in order to extend the hours of conducting autopsy beyond evening in the larger interest of people [8].

MATERIAL AND METHODS

In this retrospective study, all the cases which are autopsied during the period 1st January 2014 to 31st

December 2014 were analyzed at the Department of Forensic Medicine & Toxicology, AIMS, B G Nagar, Karnataka.

RESULTS

Month	RTA	Poisoning	Hanging	Lightning	Drowning	Natural Death	Snake Bite	Burns	Fall
January	3	3	-	-	-	1	-	-	-
February	6	2	-	-	-	1	1	-	-
March	7	2	-	1	1	1	-	2	1
April	5	2	-	-	-	2	-	1	-
May	6	2	-	1	1	3	-	-	-
Jun	06	03	-	-	-	02	-	-	-
July	03	01	01	-	-	02	-	01	-
August	07	-	02	01	-	-	-	-	-
September	04	01	01	01	02	01	-	01	-
October	06	-	01	-	03	03	01	-	-
November	05	-	01	-	01	01	01	-	-
December	07	02	01	-	-	03	-	-	-
Sub-Total	64	18	07	04	08	20	03	05	01
Total	total number of post-mortem done = 130								

Statistics of autopsied cases in 2014

- RTA-64 cases
- Natural death – 20 cases
- Poisoning -18 cases
- Drowning – 08 cases
- Hanging – 07 cases
- Burns – 05 cases
- Lightning - 4 cases
- Snake bite – 3 cases and fall – 1 case

Being a rural area death due to poisoning accounts for 18 cases because of easy availability of insecticides for the agriculture purpose.

Organophosphorus compounds have been found to cause most self-poisoning deaths in southern India [11-13]. Farmers form a significant proportion of the population, commonly use organophosphorus compound such as parathion as insecticides [14]. A large number of suicidal cases are encountered due to the easy accessibility or improper handling of these compounds [15, 16]. Acute organophosphorus pesticides consumption are the most important cause of severe toxicity and death worldwide, more than 2,00,000 deaths are found in developing countries in each year [17, 18]. The incidence of severe acute organophosphorus pesticide poisoning is very less in developed countries [17].

DISCUSSION

In the present study road traffic accident cases accounts for maximum number (64 cases). Due to the presence of Bangalore-Mangalore national highway close to medical college, every day we get to see many number of road traffic accident cases.

AIMS College is surrounded by Hemavathi water channels, because of this death due to drowning accounts for 8 cases.

In 2011, National Highways accounted for 30.1% of the total road accidents and 37.1% of the total number of persons killed in 2011. It has been reported that State Highways accounted for 24.6% of the total accidents and 27.4 % of the total number of persons killed in road accidents in 2011. The total number of accidents that occurred in rural areas (53.5%) was found to be more than that in the urban areas (46.5%), while rural areas had more fatalities (63.4%) than urban areas (36.6 %). More number of persons were injured in rural areas (59.4 %) when compared to urban areas (40.6 %) [9].

The global burden and death from drowning is found in all economies and regions. Low- and middle-income countries account for 91% of unintentional drowning deaths. It has been found that over half of the world's drowning occurs in the WHO Western Pacific Region and WHO South-East Asia Region. Drowning death rates are reported to be highest in the WHO African region that is 10-13 times higher than those accounted in the United Kingdom or Germany respectively [19].

In 2012, the month-wise distribution of road accidents has shown that more accidents occurred in the month of May (8.8%) followed by April (8.74%) and January (8.72%). The least number of road accidents were reported to occur in the month of September [10].

CONCLUSION

Autopsy has been regarded as an important tool in order to confirm the clinical cause of death, education and quality assurance. Clinicians' anxieties have been heightened due to concerns surrounding

informed consent and the retention of organs in requesting permission to perform an autopsy [20]. From this study it is concluded that medico legal autopsies revealed many findings that are of demographic importance and a continued emphasis on Autopsy is necessary for the benefit of the society.

REFERENCES

1. Rothenberg, Kelly; The autopsy through history. In Embar-seddon A, Pass AD editors; Forensic Science. Salem Press, 2008; 100.
2. Strasser, Russell S; Autopsies. In Embar-seddon A, Pass AD editors; Forensic Science. Salem Press, 2008: 95.
3. Roberts IS, Benamore RE, Benbow EW, Lee SH, Harris JN, Jackson A *et al.*; Post-mortem imaging as an alternative to autopsy in the diagnosis of adult deaths: A validation study. *The Lancet*, 2012; 379(9811): 136–142.
4. Sections 174 & 176 of the Code of Criminal Procedure, 1973. In Basu's Criminal Court Handbook containing Criminal Major Acts. 10th edition, Orient Publishing Company, New Delhi, 2007.
5. Sirohiwal BL, Sharma L, Paliwal PK; Critics and Sceptics of Medico-legal Autopsy Guidelines In Indian Context. *J Indian Acad Forensic Med.*, 2013; 35(4): 373-377.
6. Curran WJ; The medico-legal autopsy and medico-legal investigation. *Bull N Y Acad Med.*, 1971; 47(7): 766-75.
7. The Punjab Medical Manual, 2nd edition, App. XXXVII: CII, Chapter X, Para 5951933. Superintendent, Government Printing, Punjab, Lahore, 1933: 154.
8. Ramu M; Post-mortem rules need to be updated. Southern States, The Hindu, Andhra Pradesh, Saturday, Feb 01, 2003. Available from <http://www.thehindu.com/thehindu/2003/02/01/stories/2003020107780300.htm>
9. Government of India; Transport Research Wing, Ministry of Road Transport and Highways. Road accidents in India 2011. Ministry of Road Transport and Highways, New Delhi, 2012.
10. Government of India; Accidental deaths and suicides in India 2012. National Crimes Records Bureau, Ministry of Home Affairs, New Delhi, 2013.
11. Thomas M, Anandan S, Kuruvilla PJ, Singh PR, David S; Profile of hospital admissions following acute poisoning--experiences from a major teaching hospital in South India. *Adverse Drug React Toxicol Rev.*, 2000; 19(4): 313-317.
12. Batra AK, Keoliya AN, Jadhav GU; Poisoning: an unnatural cause of morbidity and mortality in rural India. *J Assoc Physicians India*. 2003; 51: 955-959.
13. Rao CS, Venkateswarlu V, Surender T, Eddleston M, Buckley NA; Pesticide Poisoning in South India – Opportunities for Prevention and Improved Medical Management. *Trop Med Int Health.*, 2005; 10(6): 581–588.
14. Kidiyoor Y, Nayak VC, Devi V, Bakkannavar SM, Kumar GP, Menezes RG; A rare case of myocardial infarction due to parathion poisoning. *J Forensic Leg Med.*, 2009; 16(8): 472-474
15. Kanchan T, Menezes RG; Suicidal poisoning in Southern India: Gender differences. *J Forensic Leg Med.*, 2008; 15(1): 7–14.
16. Vijaya Kumar S, Venkateswarlu B, Sasikala M, Vijay kumar G; A study on poisoning cases in a tertiary care hospital. *JNSBM*, 2010; 1(1): 35-39.
17. Roberts DM; Aaron CK; Management of acute organophosphorus pesticide poisoning. *BMJ*, 2007; 334(7594): 629–634.
18. Eddleston M, Eyer P, Worek F, Juszczak E, Alder N, Mohamed F *et al.*; Pralidoxime in acute organophosphorus insecticide poisoning: A randomised controlled trial. *PLoS Med.*, 2009; 6(6): e1000104.
19. WHO; Drowning. Fact sheet N°347, Available from <http://www.who.int/mediacentre/factsheets/fs347/en/>
20. Perkins GD, McAuley DF, Davies S, Gao F; Discrepancies between clinical and postmortem diagnoses in critically ill patients: an observational study. *Crit Care*, 2003; 7(6): R129-R132.