

A 18 Year Retrospective Review Of Medico-Legal Autopsies In Jos, North Central Nigeria

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Abstract: Background: Medico-legal autopsy otherwise known as coroners autopsy dates back to 4000BC. It was performed to protect the future what is known as horuspicry.

All deaths due to unnatural causes and deaths that are believed to be due to natural causes but the cause of death is not certain or known are subject to inquest. The objective of an inquest is to ascertain a verdict whether the death was due to a natural, accidental, suicidal or homicidal cause. The inquest system exists in all parts of the world. In English legal system the person who conducts an inquest is called a coroner. In Nigeria medico-legal autopsy dates back to 1917.

Objective: The study was undertaken to determine the rate of medico-legal autopsy and to examine implication to medical education. The results of medico-legal autopsies from pathology department of Jos University Teaching Hospital, (JUTH) Plateau State, Nigeria were examined, analyzed from autopsy from 1986-2014. Simple tables were used for the analysis.

Results: There were 421 cases of medico-legal autopsies giving an annual ratio of 23 per annum.

313 (73%) were males and 108 (26%) female giving a male to female ratio of 3:1.

Accidental death 210, Sudden death 44, homicidal death 35, Anaesthetic death 50, Institutional death 44, Death in police custody 38.

Conclusion: The study concluded that Medico-legal autopsy is beneficial to law enforcement and jurisprudence, medical education and even the family of the deceased. Exposure to medical students and resident doctors will help in the understanding of the legal implications of patients management.

Key words: Medico-legal, autopsy, Retrospective, North-Central Nigeria.

I. Introduction

Autopsy implies to a thorough clinicopathologic examination of the deceased body in order and not just to primarily find the cause of death but also to evaluate the pathologies of the events that leads to death.

The history of autopsy dates back to 4000BC century according to Egyptian historian Marentho, the king-physician Anthotis who wrote in medicine about some present anatomic descriptions.^[1,2] King and Mechan, in their excellent book on the origin of autopsy, trace human knowledge of anatomy to the practice of Horuspicry (the study of divination by use of animal entrails, usually the victims of sacrifices) i.e. the study of animals entrails (internal organ of animal) to predicts the future. This form of divination was wide spread in the ancient world, performed at least as early as the fourth century BC in Babylon. Later the ancient Hebrews contributed more practical observation that included forbidden eating animals that were dead and instituted full slaughtering of animals and inspecting them whether they were suitable for human consumption.^[3,4]

The first law authorizing human dissection of credited to Fredrick II in 1231, a Roman Emperor, who eased the restriction of opening human body after death. According to Chiari, a physician of Cremona performed autopsy on victims of plaques in 1286.^[5,6] The Pope apparently authorized the opening of bodies during the "Black death" 1347-1350 to determine the causes of disease, between 1231-1280 most autopsies were done to identify causes of disease.^[7]

In Nigeria Medico-legal autopsies dates back to 1917, then the law stipulated that only sudden death that involved the European colonial matters were to be reported to the coroner for autopsy. This is reported in laws guiding birth and death in Nigeria published in 1948; and 18 1948, medico-legal autopsy was extended to every Nigerian. This is reported in coroners law of Northern Nigeria published in 1963.^[8-10] The purpose of the study is to look at the implication of low rate of Medial Education in Nigeria and the North in particular.

Types Of Autopsy:

- Medico-legal autopsies or forensic or coroner's autopsies seek to find the cause and manner of death and to identify the descendant.^[11] They are generally performed as prescribed by applicable law, in cases of violent, suspicious or sudden deaths without medical assistance or during the surgical procedures.
- Clinical and pathological autopsies are performed to diagnose a particular disease or for research purpose. They aim to determine, clarify or confirm medical diagnosis 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).^[12]

The medico-legal or forensic autopsy is performed on the instructions of the authority in circumstances relating to suspicious, sudden, obscure, unnatural, litigious or criminal deaths and the information so derived to be applied for the legal purpose to assist the court of justice. The manner of death in a particular case whether natural, suicidal, homicidal or incidental and even the cause of death sometimes is known to the attendants or the relatives of the deceased or the doctors and the health staff who had attended it as patient and even the investigating authorities. But the cause of death for legal purpose can only be given by the autopsy surgeon who is entitled to perform the medico-legal autopsies under his privileges as a registered medical practitioner and who can give evidence at any inquest or in any court of law as an expert.^[13]

Purpose Of Medico-Legal Autopsy:

1. To know the exact cause of death.
2. To find out the circumstances of death.
3. To find out the post mortem interval.
4. In case of unidentified dead body, to establish identity of the deceased or to help to do so.
5. The period for which the deceased survived after sustaining injuries or exposed to poison.
6. To know the nature or the manner of death whether natural, suicide or homicide.
7. Whether any natural disease process contributed in any way, to cause the death.
8. Whether any other offence was related with the death e.g. rape.
9. Whether the dead body has been displaced from the original place of disposal.
10. Whether there is any on or with the body which may help identification of the assailant.

Autopsy In The 20th Century

During the first half of twentieth century early pioneers of pathology like Sir William Osler in North America stressed the importance of autopsy in both undergraduate and post graduate medical education. Osler was trained under renowned cellular pathologists; Virchow and Rokitsky. He is reported to have performed 800 autopsies in McGill University in Montreal Canada. These autopsies were used in clinical practice and became the foundation of his text book, principle and practice of medicine in 1892; since then, medical education in Canada and America, as reported by Flexner, who advocated autopsy as an important tool for ensuring hospital quality and accreditation which was utilized by accreditation agencies to define acceptable autopsy rates for teaching, research, and training. That policy raised the standard of training pathologists because the training was based on autopsy^[14,15]. Autopsy rate began to rise and by mid 1940s, hospital autopsy rates were reported to be 50%. However in mid 70s autopsy rate dropped to less than 20%.

In Nigeria, there is no record of hospital autopsy rates; however medico-legal autopsies date back to 1917, then the law stipulated that only sudden death that involved the European colonial masters were to be reported to the coroner for autopsy. This is reported in laws guiding birth and death in Nigeria published in 1948; and in 1948, medico-legal autopsy was extended to every Nigerian. This is reported in coroners laws of Northern Nigeria published in 1963.^[8,10] The purpose of the study is to look at the implication of low autopsy rate to Medical Education in Nigeria and the North in particular.

II. Material/Methods

JUTH is one of the Teaching hospitals in North Central States of Nigeria that has the services of a resident Pathologist. The department of pathology in conjunction with police and coroner carry out medico-legal services in addition to clinical autopsies.

All clinical autopsies and medico-legal autopsy records are domiciled in the department of Pathology.

Records of all autopsies and medico-legal autopsies in the department were retrieved and purely clinical autopsy cases were extracted from the general autopsy register. The period of study included records of autopsy from 1996-2014.

The frequency of autopsy compared to medico-legal autopsies were analyzed.

The implication of the findings was analyzed in relation to medical education certainty of diagnostic accuracy and perception of Doctors and relations to autopsy.

III. Results

A total of four hundred and twenty-one (421) cases of medico-legal autopsies were recorded between 1996-2014,

Table1: show distribution of medico-legal autopsies.

Events	Male	Female	Total	%
Accidental death	154	56	210	50
Sudden death	40	4	44	11
Homicide death	32	3	35	8
Anasthetic death	20	30	50	12
Institutional death	31	13	44	11
Death in police custody	36	2	38	9
Total	313	108	421	100%

Accidental death constituted 50%, followed by Anasthetic 12% and institutional death 11%. In each category, there is male predominant which accounted for 74% of all medico-legal cases while female accounted for 26%.

Table 2: Showing age and sex distribution of medicol-legal autopsies in JUTH, Jos.

Age group	Accidental		Sudden		Homicidal		Anasthetic		Institutional		Police		Total
	M	F	M	F	M	F	M	F	M	F	M	F	
1-10	4	2	1	-	-	-	-	2	-	-	-	-	9
11-20	10	-	2	-	-	-	-	6	-	-	-	-	18
21-30	15	8	1	-	1	-	5	2	2	-	2	-	36
31-40	5	10	1	-	3	-	5	-	5	10	5	-	44
41-50	50	30	30	4	11	1	4	10	5	1	5	1	152
51-60	51	4	3	-	9	2	4	6	10	1	15	1	106
61-70	14	2	-	-	6	-	2	4	9	1	9	-	47
71-80	5	-	2	-	2	-	-	-	-	-	-	-	9
Total	154	56	40	4	32	3	20	30	31	13	36	2	421

IV. Discussion

There were 421 cases of medico-legal autopsies (23.4 cases/annum) which portrays a great concern in teaching, research and medical audit.

The focus of this article is declining rate of medico-legal autopsies. The authors believe that there are many factors that may be responsible for this low rate of autopsy.

1. Diversion of pathologist attention from autopsy. The roles of clinical pathologist grew as physician relied on newer sophisticated laboratory test.
2. Surgical biopsies, cytological services, imaging techniques all these increased surgical specimen for the pathologist putting less emphasis on autopsy to search for cause of disease?
3. Remuneration for/or clinical autopsy is usually not given to pathologist and inconsistent policy who is qualified to handle coroner autopsy also contributed to decline in autopsy rate.
4. Clinician request for autopsy has decline due to the following reason.
5. Unwillingness to dwell on clinician mistakes or failure.
6. Fear of autopsy may incur malpractices risk.
7. Greater confidence in modern diagnostic techniques.
8. Problem of obtaining autopsy authorization from relatives.
9. Prolong waiting time for autopsy in the mist of grieve. ^[16,18]
10. Families of deceased have resisted autopsies for several reasons including being poorly informed about the value of autopsy, fear that they may be billed for the services and anxieties about delays.
11. Increasing numbers of patient with chronic diseases dying outside the hospital either at home, nursing home, in sites where there is little interest in postmortem.

It is reported in USA, that hospital autopsy rate including medical examiners/coroner cases fell below 10% and to nearly 5% if death caused by accidents, homicide and suicide are excluded. The autopsy rate of our teaching hospital will continue to fall as long as there is shift in terminal care from the hospitals (and pathologist departments). In some hospital in the country the autopsy rate is zero. Similar rate from Australia, Denmark, Japan, Sweden and the United Kingdom has also been reported.^[19,22]

What Is The Situation Today?

If coroner autopsies are excluded will non-forensic autopsy continue to be a relevant medical procedure? Or has non-forensic autopsy reached its lowest ebb? How do we halt the decline? The major challenges in preserving the autopsy rest not only convincing the public for the merits of autopsies, but rather on re-engaging the medical professionals, including pathologist to see the need for autopsy in medical education, research and services.

Is Non-Forensic Autopsy Still Relevant?

Despite the declining rate of autopsies. The procedure still have its proponents, some have advocated that non-forensic should be left with relics of the past since there are more sophisticated ways at arriving diagnosis.^[16] The detractors question the risk and cost effectiveness of the autopsy. The proponent believes, that autopsy has a place in establishing public trust in medicine and remains a focal point for the integration of medical knowledge.

Major Benefits Of Autopsy

1. Benefits to physician and health care organization.

Autopsy is the golden standard for evaluating the accuracy of diagnosis and the outcome of therapy. Autopsy seeks to establish final diagnosis and determination, whenever possible of the cause of death. It provides a unique opportunity for physician to co-relate their physical and laboratory findings with pathologic changes of diseases.

Through autopsy findings, pathologist alerts hospital infection committee of a possible contagion. Thus it may provide medical quality assurance and ultimately quality improvement of health care.

Autopsy may also reduce hospital and physician malpractices risk, Autopsy eliminated suspicions, provide assurance to families, Substitute fact from conjecture, improve qualities of health care among others.

2. Benefits to the family of the deceased.

- (a) At autopsy pathologist can identify or define hereditary or contagious disease. This information not only provides the genetic counseling but also may indicate preventive care for the relatives.
- (b.) Autopsy help families with grieving process especially by removing guilt on the part of the immediate family for believing that they might have contributed to death.
- (c.) Autopsy provides accurate data for determination of insurance benefit or workers compensation.

3. Benefit to public health

Autopsy contributes to public health surveillance through detection of contagious disease, identification of environmental hazard and contribution to vital statistics. Autopsy can help global terrorism by identify the agent in bioterrorism.

4. Benefit to medical education

Autopsy aid in the education of students in medicine, and other health related discipline by providing teaching materials for anatomy, histology and pathology museum. Direct exposure of medical students as participants offer the opportunity not only in the instruction of pathology but also in that of anatomy. In the arena of medical education, autopsy is a focal point of integration and correlation of basic and clinical medical knowledge. Postmortem conference helps in patient care and quality assurance.

5. Benefit to medical discovery and applied clinical research

Modern molecular techniques couple with autopsy has help to identify diseases related to emerging and re-emerging infections agents. Autopsy helps to evaluate toxic effect of the latest drug, accuracy of imaging techniques and the efficacy of new therapies.

6. Benefit to basic biomedical research

Autopsy provides investigators with normal and diseased human tissue for research. Tissues obtained at autopsy are useful for establishing cell and organ culture, Xeno-trasplantation, biochemical analysis and morphologic studies despite often lengthy time between death and autopsy. Cooperation between families,

clinicians, pathologist and basic scientist often provide opportunity for organ or tissue donation shortly after death.

Human brain is not available by any other mean which emphasis the importance of autopsy in research field of neuroscience and pathology. An immediate autopsy programme in addition to supplying well preserved normal tissue for study, will allow investigators the opportunity to examine pathologic process at the molecular and cellular levels. Tissue collected and bank by institution and research societies around the world provides investigator with normal and disease tissues for example Human genome project.

7. Benefit to law enforcement and jurisprudence.

Medicolegal investigation of death is a key component of crime investigation. The forensic autopsy is focused on establishing the cause of death, time and manner of death including circumstance proceeding and surrounding death. Thus in addition to postmortem examination, the medico-legal autopsy may involve inspection of site where the body was found. Anticipating the potential from legal action, the forensic pathologist must be call upon and presents evidence obtained at the scene and do the autopsy.^[23]

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