

ORIGINAL ARTICLE

UNCOMMON AND FLUKE PATHOLOGICAL DISCOVERIES DURING EXAMINATION OF VISCERA IN POSTMORTEM CASES- A RETROSPECTIVE STUDY

Arun Puri¹, Parul Garg², Ishwer Tayal³, Navtej Singh⁴, Rajiv Joshi⁵

¹Associate Professor, Department of Pathology, GMC Amritsar, ²Assistant Professor, ⁴Prof and Head, Department of Pathology, ³Assistant Professor, ⁵Professor, Department of Forensic Medicine, GGS Medical College, Faridkot, PB.

ABSTRACT:

Background: The main purpose of autopsy is to elicit information about the cause and mode of death of the deceased with unknown and or unnatural cause of death. Pathological examination also provides information about the asymptomatic or undiagnosed lesions. The aim of the present study is to evaluate the various such incidental discoveries of lesions that would normally go unnoticed during the person's life. **Materials and methods:** The retrospective tertiary care hospital based study was conducted in the Department of Pathology. A total of 125 Autopsy viscera cases brought over the period of three years were included in the study. Cases in which cause of death could be established beyond any doubt without pathological examination like Burns, Hanging, Head Injury, Railway accident cases etc. were not subjected to Histo-pathological examination. Only the Viscera brought by police, adequately preserved in 10% formalin solution were examined. The results are expressed as percentage of total value. **Results:** Atherosclerosis was the most common finding on autopsy, occurring in almost 24.8% cases. Liver was the predominant organ that was examined histopathologically. Fatty liver was demonstrated in 22.4% cases. There were only 0.8% cases of pancreatitis and erosive gastritis in our study. Majority of the cases i.e. 49.6% (n=62) were between 21-40 years of age. Least number of cases was found in the age group of more than 80 years i.e. 2.4%. **Conclusion:** Atherosclerosis is the most common finding followed by fatty liver. Such studies give an insight about true prevalence of the disease.

Keywords: Atherosclerosis, autopsy, formalin, histo-pathological examination.

Corresponding author: Dr. Arun Puri, Associate Professor, Department of Pathology, GMC Amritsar, India

This article may be cited as: Puri A, Garg P, Tayal I, Singh N, Joshi R. Uncommon and fluke pathological discoveries during examination of viscera in postmortem cases- A retrospective study. J Adv Med Dent Scie Res 2017;5(2):121-123.

Access this article online	
 <p>Quick Response Code</p>	Website: www.jamdsr.com
	DOI: 10.21276/jamdsr.2017.5.2.28

INTRODUCTION

The main desideratum of autopsy is to provide information about the cause and Mode of death of the person and hence provide valuable information regarding death to the investigating officer as well as family members of the deceased.¹⁻⁵ Most of the times, there is certain information available that is not related to the primary cause of death. These histopathological findings are of great academic value and as a lightning bolt for rare lesions that go unnoticed when the person is alive. The term autopsy is basically derived from the term "autos and opsis" meaning "to see for herself".^{6,7}

These autopsies not only aid in studying the naturally occurring and treated Lesions but also provide information about the untreated, asymptomatic or undiagnosed lesions.⁸ Histopathological examination is also a useful tool to assess the mortality statistics which play an important role in health and treatment planning.⁹ Despite of various advantages, there is still social stigma attached with Post mortem examination and institutes are not able to conduct Pathological Autopsy in all the cases

for the want of consent. The aim of the present study is to evaluate the various incidental discoveries of lesions that would normally go unnoticed during the person's life.

MATERIALS AND METHODS

The retrospective tertiary care hospital based study was conducted in the South west part of Punjab, during a period of three years i.e. 2013 to 2016. A total of 125 cases were included in the study, however total number of cases reported were 168. Out of these 43 cases were not included in the study as only a particular tissue was sent for examination. Cases in which cause of death could be established beyond any doubt without pathological examination like Burns, Hanging, Head Injury, Railway accident cases etc. were not subjected to Histo-pathological examination. Only the Viscera brought by police, adequately preserved in 10% formalin solution were examined.

Most of the Autopsy Viscera comprised of whole of heart, part of liver, spleen, lungs, Brain and Half of each kidney. A portion of organ was removed and their slides

were prepared and processed in the routine manner. Haematoxylin and Eosin (H& E) stains were used to stain the slide. Special stains were used only when required. Findings were noted in a tabulated form and the cases were arranged according to their age group. The results are expressed as percentage of total value.

RESULTS

The present study consisted of 125 autopsies being conducted in the institute, state during a three year period. Out of the total cases there were 70% males and 30% females.

Table 1 demonstrates the lesions that were noted at autopsy. Atherosclerosis was the most common finding on autopsy, occurring in almost 24.8% cases. Liver was the predominant organ that was examined histopathologically. Fatty liver was demonstrated in 22.4% cases. There were only 0.8% cases of pancreatitis and erosive gastritis in our study. There were 20 cases (16%) who were found to have pulmonary oedema and 12% cases (n=15) were of Acute renal tubular necrosis.

Table 1: Lesions obtained on autopsy

S.No	Histopathological Findings	No. Of Cases	Percentage
1	Atherosclerosis	31	24.8%
2	Fatty liver	28	22.4%
3	Pulmonary oedema	20	16%
4	Renal tubular necrosis	15	12%
5	Pneumonia	6	4.8%
6	Tuberculosis	6	4.8%
7	Cirrhosis	5	4%
8	Neoplastic lesions	2	1.6%
9	Pancreatitis	1	0.8%
10	Erosive gastritis	1	0.8%
11	Autolysed	10	8%
	Total	125	100

Table 2: Distribution of autopsy cases according to age

Age Group	Number Of Cases	Percentage
0-20	6	4.8
21-40	62	49.6
41-60	47	37.6
61-80	2	5.6
>80	3	2.4
Total	125	100

Table 3: Incidental findings in autopsy

S.No	Age	Indication Of Autopsy	Incidental Finding
1	64/M	Organophosphate poisoning	Kidney- renal cell carcinoma
2	32/M	Celphos poisoning	Carcinoma liver
3	41/F	Hanging	Polycystic Kidneys
4	45/M	Tuberculosis	Lung abscess
5	57/M	Custodial Death	Renal cell carcinoma
6	37/F	Snake bite	Fibroid Uterus
7	49/M	Sudden Heart attack	Liver cirrhosis and tuberculosis
8	32/F	Burns	Ranal Calculi

DISCUSSION

Investigations are an important tool in any forensic practice. Medical practitioners mostly encounter patients in an emergency situation without availability of any prior reliable history of the patient. Sudden undiagnosed deaths of these patients make autopsy a prerequisite to determine the underlying etiology. In our present study, there were incidental case of renal cell carcinoma accounting for 0.8% of total findings. Our study was in

The most common incidental finding was atherosclerosis and the least common was erosive gastritis and pancreatitis.

Table 2 shows the age wise distribution of autopsy cases. Majority of the cases i.e. 49.6% (n=62) were between 21-40 years of age. Least number of cases was found in the age group of more than 80 years i.e. 2.4%. There were 37.6% cases in the age group of 41-60 years.

Table 3 demonstrated the characteristic incidental finding that were obtained on autopsy. A 68 years old male alleged to have died with organophosphate poisoning was found to have renal cell carcinoma which was confirmed histopathologically. A 37 year old female patient alleged to have died with snake bite was found to have fibroid uterus. A 41 year old female patient who allegedly died of hanging had polycystic kidneys. Alcoholic Male deceased with massive haematemesis aged 49 years was found to have liver cirrhosis and tuberculosis.

accordance to the study conducted by Shah VB et al¹⁰ who also incidentally discovered less than 1% of renal masses in his study conducted on 650 cases. In a study conducted by Jonsson A et al¹¹, 110 renal cell carcinoma were diagnosed at a rate of 7.1/1000 autopsies. It has been seen that the trend for organ donation is increasing, and hence individual must be screened for such incidental pathologies. Tumors have the tendency to

spread from one site to another. The commonest donor sites are lungs followed by breast, prostate and thyroid. It is rightly said that liver is “custodian milieu interior”. It is the organ which is most vulnerable to any toxic, metabolic or circulatory insult. Therefore it is sent for autopsies in majority of the cases. Liver cirrhosis was detected in one patient allegedly died of sudden cardiac arrest. Fatty liver was detected in 22.4% of the incidental cases during autopsy. Most of the advanced liver diseases may also go undiagnosed during life because of the absence of clinical signs and symptoms and hence are diagnosed during autopsy.^{12,13} According to a study by MS Bal et al¹⁴, cirrhosis of liver, hepatitis, chronic venous congestion were common incidental findings on autopsy.

Tuberculosis has been regarded as a global emergency by WHO and is a major cause of morbidity and mortality worldwide.¹⁵ There were 4.8% cases of tuberculosis that were discovered incidentally on autopsy. In a similar study conducted by Sapna et al¹⁶ 3.46% cases of tuberculosis were identified. In a study conducted by M Garg et al¹⁷, the incident was quite high ranging upto 8.7%. Many cases of tuberculosis go undiagnosed during lifetime as the infection remains latent.

Our study was associated with few limitations like the sample size was small and the period of study could not cater vast majority of patients. Individual systems could not be given preference and therefore many of the common findings were missed.

CONCLUSION

From the above study it can be easily concluded that atherosclerosis is the most common finding followed by fatty liver. Histopathological studies during autopsy plays a vital role in increasing our knowledge about incidental discoveries. It aids in understanding the disease process that one encounters frequently. Such studies give an insight about true prevalence of the disease.

REFERENCES

- Chen K. The coroner's necropsy: an epidemiological treasure trove. *J Clin Pathol* 1996;49(9):698-9.
- O'Sullivan JP. The coroner's necropsy in sudden death: an under-used source of epidemiology information. *J Clin Pathol* 1996;49(9):737-40.
- Nemetz PN, Ludwig J, Kurkland LT. Assessing the autopsy. *Am J Pathol* 1987;128(2):362-79.
- Escoffery CT, Shirley SE. Autopsy rates at the university hospital of the West Indies, 1968-1997. *West Indian Med J* 2000;49(2):164-8.
- Escoffery CT, Shirley SE. Causes of sudden natural death in Jamaica: a medicolegal (coroner's) autopsy study from the university hospital of the West Indies. *Forensic Sci Int* 2002;129(2):116-21.
- Sulegaon R, Kulkarni D, Chulki S. Medicolegal autopsies- Interesting and incidental findings. *Int J Forensic Sci Pathol.* 2015;3(8):156-60.
- Sarvaiya AN, Panjvani SI, Shah NR, Shah CK. Incidental and interesting histopathological findings in medicolegal autopsies. *International Journal of Science and Research (IJSR).* 2014;3(1):372-74.
- Gezelius C, Eriksson A. neoplastic disease in a medicolegal autopsy material. A retrospective study in northern Sweden. *Z Rechtsmed.*1988;101(2):115-30.
- Jhaji KK, Nibhoria S, Sandhu SK, Bamra NS, Padda P. A study of histopathological examination in medico-legal autopsies in Faridkot, Punjab. *IJFMT.* 2013;7(1):254-87.
- Shah VB, Deokar MS. Spectrum of incidental renal masses detected at autopsy. *Bombay Hosp J.* 2009;51(4):432-36.
- Jonsson A, Hardarson S, Petursdottir V, Palsdottir HB, Jonsson E, Einarsson GV, et al. Renal cell carcinoma diagnosed at autopsy in Iceland 1971-2005. *Laeknabladid.* 2008;94(12):807-12.
- Devi M, Myrthong BG, Meera, Nabachandra H. Pathological findings of liver in autopsy cases. A study at Imphal. *J Indian Acad Forensic Med.* 2013;35(3):206-10.
- Selvi RT, Selvam V, Subramaniam PM. Silent liver disease in and around of Salem Population: An autopsy study. *Journal of Clinical and Diagnostic Research.* 2012;6(2):207-10.
- Bal MS, Singh SP, Bodal VK, Oberoi SS, Surinder K. Pathological findings in liver autopsy. *J Indian Acad Forensic Med.* 2004;26(2):55-57.
- Rastogi P, Kanchan T, Menezes RG. Sudden unexpected deaths due to tuberculosis: An autopsy based study. *Journal of Forensic Medicine & Toxicology.* 2011;28(2):81-5.
- Patel S, Rajalakshmi BR, Manjunath GV. Histopathologic Findings in Autopsies with Emphasis on Interesting and Incidental Findings-A Pathologist's Perspective. *Journal of Clinical and Diagnostic Research: JCDR.* 2016 Nov;10(11):EC08.
- Garg M, Aggarwal AD, Singh S, Kataria SP. Tuberculous lesions at autopsy. *J Indian Acad Forensic Med.* 2011;33:116-19.

Source of support: Nil

Conflict of interest: None declared

This work is licensed under CC BY: *Creative Commons Attribution 3.0 License.*