

A Five Years Retrospective Study of Incidental Findings in Medico-Legal Autopsies

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Abstract

Aim of the study: The aim of the study is to find out the spectrum of incidental pathological lesions in the deceased during medico legal autopsy which are not directly related to the cause of death. This study emphasizes the incidence of various incidental lesions which otherwise would have been unnoticed during a person's life.

Materials and method: A five years retrospective study was conducted from 2012 to 2017 at the department of Forensic medicine Assam Medical College and hospital,. The organs where the pathological lesions were detected mostly comprise of lungs, liver, kidneys and heart. The sections from organs were preserved in 10% formalin and prepared for histopathological examination. The gross and histopathological findings were noted.

Results: 75 cases of cirrhosis of liver, 62 cases TB lung, 93 cases of coronary artery disease and 18 cases of cystic lesions of kidney were detected where the cause of death is not directly related with these lesions.

Key words: *Incidental findings, autopsy, histopathology, cause of death, cirrhosis of liver, coronary artery disease, TB lung, cystic lesions of kidney*

Introduction

A fistful of pathological findings unrelated to the cause of death are noticed in routine gross and histopathological examination of medico legal autopsies. These findings will be proved to be of great academic value and will help us to find out the relation between the disease and injury. As we know that an underlying disease which was unnoticed or undiagnosed during the life time of an individual may have contributory factor or may have precipitating fraction towards the cause

of death ^[1]. These pathological findings may serve as a gain for the defense in the court of law. The medicolegal autopsy provides an opportunity for studying not only medically diagnosed and treated lesions but also the natural evolution of untreated disease ^[2]. Autopsy also helps in the diagnosis of undiagnosed or misdiagnosed pathological lesions irrespective of underlying cause of death, which may or may not be related to malignancy ^[3]. But many incidental findings have been highlighted on histopathological examinations which have proven to be great learning tools for the pathologists as well as the forensic medicine expert. ^[4]

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Materials and Method

Total 5449 numbers of medico legal autopsies were performed during that period of five years from 1st June 2012 to 31st May 2017. These cases were brought to the

mortuary of Department of Forensic Medicine, Assam Medical College & Hospital, Dibrugarh by investigating authority. Out of these cases histopathological examination was done for the cases where the autopsy surgeon have noticed gross pathological lesions in the organs viz. liver, lungs, heart and kidney. Total number of cases where histopathological examination done was 291. Out of these 291 cases, in 75 cases cirrhosis of liver, in 62 cases TB lung, in 93 cases of coronary artery disease and in 18 cases of cystic lesions of kidney were detected i.e. positive histopathological finding was found in 248 (75+62+93+18) number of cases. Out

of these 248 cases, in 182 cases the cause of death is not directly related with these pathological lesions. In the present study highly decomposed bodies were not included. The present study has been undertaken on the basis of external and internal postmortem examinations with special reference to gross and histopathological examination of lungs, liver, heart and kidneys. In the cases where death of the victim occurred in hospital, the treatment records available were also studied. A detailed, careful and thorough postmortem examination was done on every case.

Methods

After gross findings are noted, the tissues from the viscera are preserved in 10% formalin and tissue blocks were prepared in histopathological laboratory of Department of Forensic Medicine, Assam Medical College & Hospital, Dibrugarh.

Table 1. Table showing the number of autopsies with positive Histopathological findings:

Total number of autopsies	No of autopsies where Histopathological examination done	No of autopsies with positive Histopathological findings
5449	291	248

Table 2: Table showing type of histopathological lesion:

No of autopsies with positive Histopathological findings	No of autopsies with cirrhosis of liver	No of autopsies with coronary heart disease	No of autopsies with TB lungs	No of autopsies with cystic lesions of kidney
248	75	93	62	18

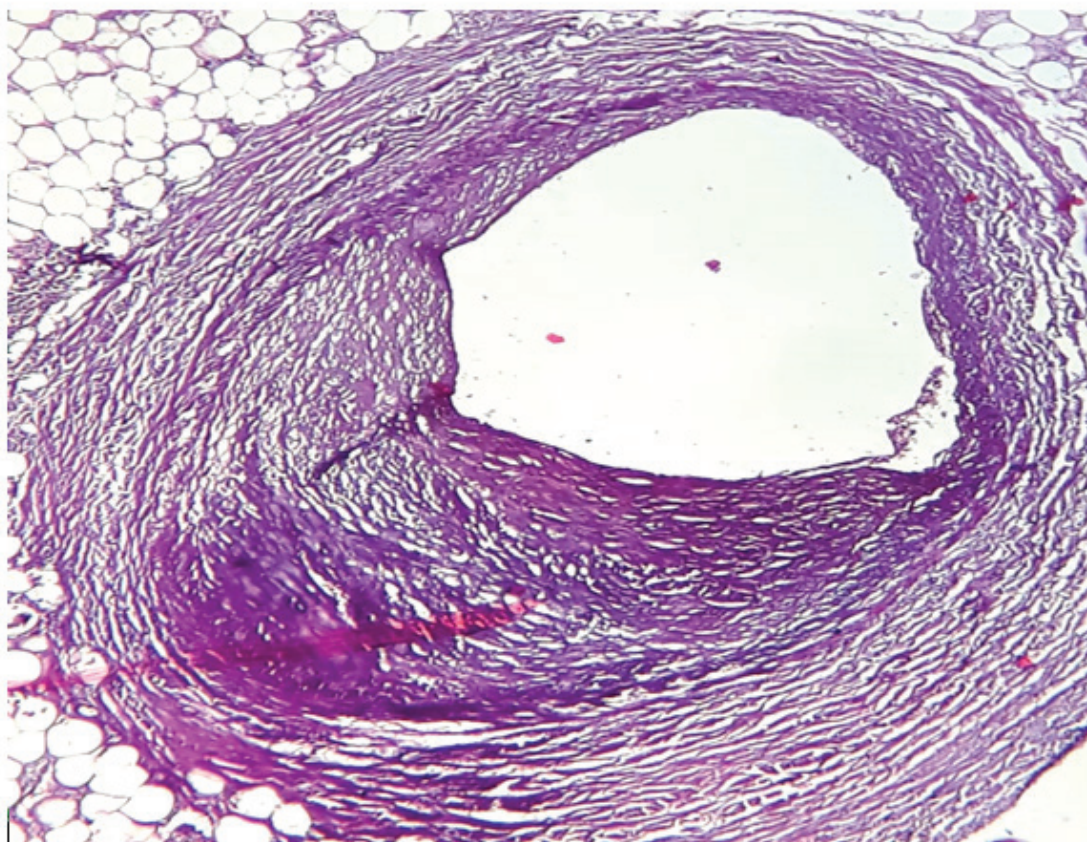
Table 3: Table showing number autopsies with incidental findings (No of autopsies with positive Histopathological findings where cause of death is not directly related to the pathological lesion):

No of autopsies with positive Histopathological findings	No of autopsies with incidental findings
248	182

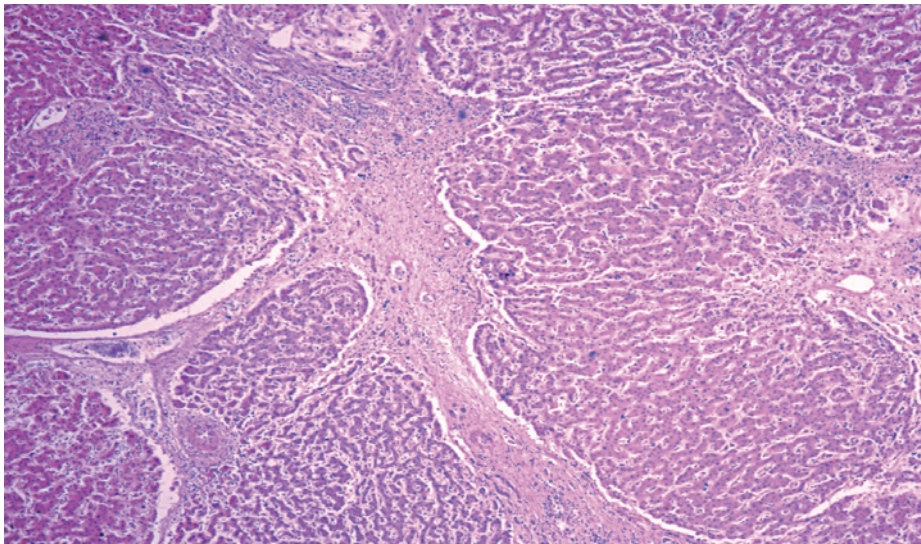
Table 4: Table showing the autopsies having different of causes of death with incidental findings:

Total Number of autopsies with incidental findings	Coma due to Head injury	Coma due Cerebrovascular accident	Asphyxial death (hanging)	Asphyxial death(drowning)	Hemorrhage and shock	Burn	Poisoning
182	38	14	26	7	27	40	30

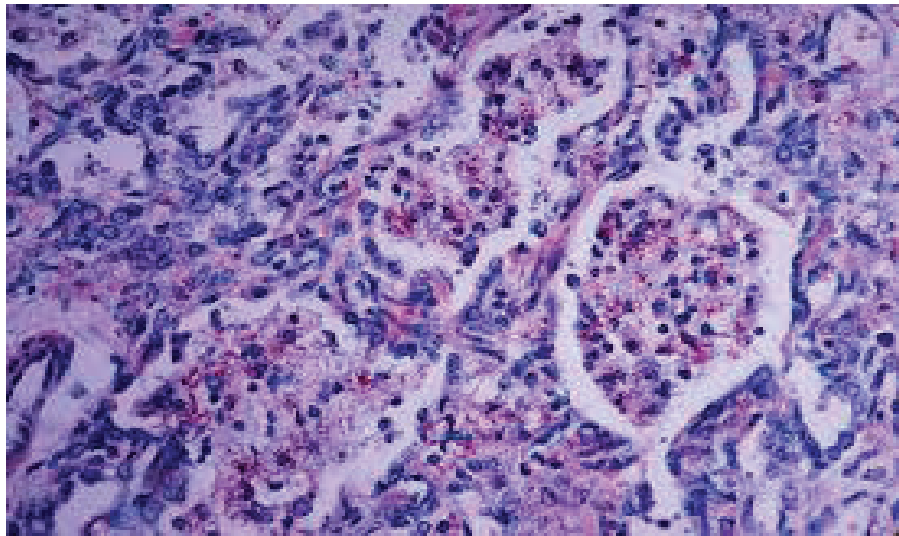
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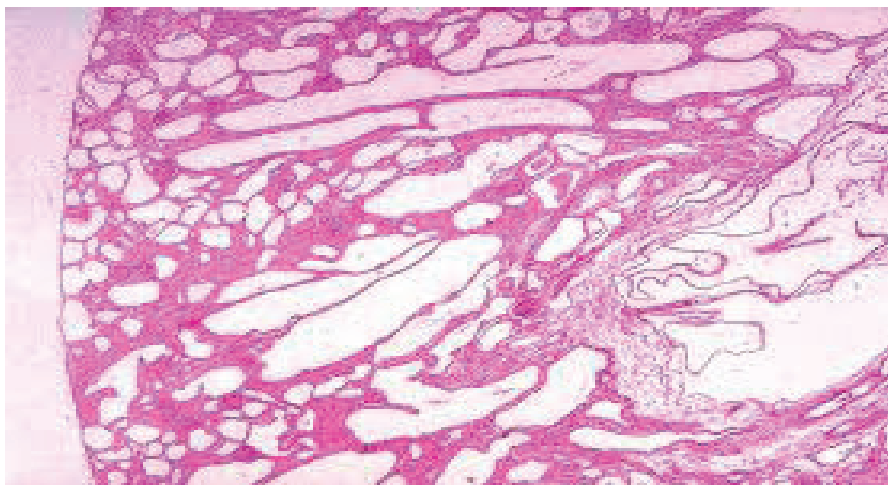
PICTURE 1.ATHEROSCELORIS WITH PARTIAL OCCLUSION OF CORONARY ARTERY



PICTURE 2. CIRRHOSIS OF LIVER



PICTURE 3. TB LUNG



PICTURE 4. POLYCYSTIC KIDNEY DISEASE

Discussion

The results of the study showed that renal cystic lesion cases, this is comparable to the study by Sulegaon et al [6] which showed cystic lesion in 38 cases in Medicolegal autopsies. Regarding cirrhosis of liver study of Alagarsamy et al [7] shows similar statistics with our study. From our study we have seen that that Coronary artery was the commonest histopathological finding followed by Cirrhosis of liver which is similar to the study done by Patel S et.al [5]. Histopathology in autopsy plays a vital role in the study of some of the rare neoplastic lesions contributing to the knowledge of pathology. This study highlights the various incidental unexpected rare cases in medico-legal autopsies, which are imperative in academic and research purposes. Histopathology would not have been necessary for some of these conditions during a life time but an incidental finding in autopsy has unveiled the histo-pathological changes that help in the understanding of disease processes which are otherwise rare for a pathologist to encounter in the day to day specimens. Such retrospective and prospective studies also provide an insight into the true prevalence of diseases or lesions. Tuberculosis (TB) has been described as a ‘global emergency’ by WHO and is still considered as a major cause of morbidity and mortality worldwide. The poor socio-economic condition is one of the precipitating factor for this and often both the pulmonary and extra pulmonary Tubercular lesion remain undiagnosed during life time in a large number of cases unless the patients access the health care facility.

Conclusion

From our autopsy study, we would like to conclude that, though incidental findings in autopsies may not be the cause of death but gives many information related to epidemiology of a disease. In our study, we found atherosclerosis to be the commonest incidental finding which led to IHD, LVH and sudden death in the 20-40 years age group in males. This was associated with history of alcohol consumption and smoking can lead to

quarrels, both of which are high risk factors contributing to development of IHD. A detailed and both, prospective as well as retrospectives, studies on prevalence of certain diseases in the community might help to find out actual prevalence figures as well as a useful data in controlling/monitoring certain disease processes.

Conflict of Interest: None declared

Source of Funding: None declared

Ethical Clearance: Taken

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