



HISTOPATHOLOGICAL STUDY OF LUNG AND LIVER IN AUTOPSY CASES IN A TERTIARY CARE HOSPITAL OF JHARKHAND

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ABSTRACT

The advancements of medicine would not have been possible without the help of autopsies. The lungs and liver are affected by numerous infectious, inflammatory, occupational and neoplastic conditions. This is a retrospective study conducted on 38 cases of lung and 48 cases of liver received during the period of 2 years from January, 2017 to December 2018 in pathology department of Rajendra Institute of Medical Sciences (RIMS), Ranchi in collaboration with Forensic medicine department. Of the 72 cases of lungs, 41.67% cases showed pneumonia, 20.83% cases showed congestion, 2.78% cases showed emphysema, 22.22% showed granulomatous lesion, 8.33% cases showed overlapping findings and 4.17% showed normal finding. Of the 86 cases of liver, 16.28% cases showed cirrhosis, 18.60% cases showed dilated and congested sinusoids, 31.40% cases showed fatty changes, 2.33% showed malignancy (metastatic adenocarcinoma), 2.33% cases showed overlapping findings and 29.06% showed normal finding.

KEYWORDS : Autopsy, Lung, Liver, Jharkhand.

INTRODUCTION:

The advancements of medicine would not have been possible without the help of autopsies. The importance of lung disease in the overall perspective of pathology and clinical medicine cannot be overemphasized. Present days air pollution and other environmental inhalants, chemical cum toxic substances & chronic bronchitis become uncontrollable.¹ The lungs are affected by numerous infectious, inflammatory, occupational and neoplastic conditions², but they are secondarily involved in almost all terminal events³. Hence it is important to identify the leading cause of death to establish preventive methods.

Liver is vulnerable to a wide variety of metabolic, toxic, microbial and circulatory insults. In some instances, the disease is primary while in others the hepatic involvement is secondary to cardiac decompensation, alcoholism or extrahepatic infections. Quite rightly liver is, called as "The custodian of milieu interior" Autopsy study is useful to monitor the cause of death and to plan medical strategy.⁴ Abnormal findings in liver autopsy can be fatty change, hepar lobatum, glycogen storage disease, acute phosphorus poisoning, hemosiderosis, syphilis actinomycosis, infarcts, cloudy swelling, tuberculosis, acute passive hyperemia, chronic passive hyperemia, amyloidosis, abscess, hydatid cyst, malignancy, cirrhosis and acute yellow atrophy.⁵ Alcohol abuse generally leads to three pathologically distinct liver diseases; these are fatty liver, hepatitis and alcoholic cirrhosis. Any one or all the three can occur at the same time, in the same patient.⁶

Autopsy is an important complementary tool to evaluate disease or injury that may be present and to determine the cause and manner of a person's death.⁷

MATERIALS AND METHODS

This is a retrospective study conducted on 72 cases of lung and 86 cases of liver received during the period of 2 years from January, 2017 to December 2018 in pathology department of **Rajendra Institute of Medical Sciences (RIMS), Ranchi** in collaboration with Forensic medicine department. The medical history and clinical history were traced. The gross findings were recorded from autopsy, bits from lesions if any or from random areas were taken and fixed. in 10% formalin and submitted for histopathological examination after tissue processing. Routine Haematoxylin and Eosin stains were used for staining. The histopathological findings were tabulated.

RESULTS

Of the 72 cases of lungs, 41.67% cases showed pneumonia, 20.83% cases showed congestion, 2.78% cases showed emphysema, 22.22% showed granulomatous lesion, 8.33% cases showed overlapping findings and 4.17% showed normal finding.

Of the 86 cases of liver, 16.28% cases showed cirrhosis, 18.60% cases showed dilated and congested sinusoids, 31.40% cases showed fatty changes, 2.33% showed malignancy (metastatic adenocarcinoma), 2.33% cases showed overlapping findings and 29.06% showed normal finding.

Table 1: HISTOPATHOLOGICAL FINDINGS IN LUNG CASES

	Male	Female	Total	Percentage (%)
Pneumonia	21	09	30	41.67
Congestion	07	08	15	20.68
Emphysema	02	00	02	2.78
Granulomatous lesion	09	07	16	22.22
Overlapping findings	02	04	06	8.33
Normal	03	00	03	4.17
Total	44	28	72	

Table 2: HISTOPATHOLOGICAL FINDINGS IN LIVER CASES

	Male	Female	Total	Percentage (%)
Cirrhosis	10	04	14	16.28
Dilated & Congested sinusoids	12	04	16	18.60
Fatty changes	15	12	27	31.40
Malignancy (Metastatic)	02	00	02	2.33
Overlapping	02	00	02	2.33
Normal	20	05	25	29.06
Total	61	25	86	

DISCUSSION

For the specimens of lungs, the results of the study showed that pneumonia is the commonest disease (41.67%), affecting males more frequently than females. This is similar to the study by Chauhan G et al⁸ and Selvam V et al¹. In the current study, Congestion is seen in 15 cases (20.68%), of which 7 were male, 8 were female which is similar to study by Chauhan et al.⁸ Emphysema and granulomatous lesions were seen in 2 cases (2.78%) and 16 cases (22.22%) respectively. Overlapping findings were found in 6 cases (8.33%) and 3 cases (4.17%) were normal which is slightly less than the study by Selvam V et al¹, which showed normal findings in 7.4% cases.

For the specimens of liver, the results of the study showed that fatty changes in the liver is the commonest finding (31.40%), affecting males more frequently than females. In the current study, dilated and congested sinusoids were seen in 16 cases (18.60%) which is much higher than the study by Copeland⁹ (1985) which reported congestion in 3.4% of liver autopsies. Cirrhosis and metastatic malignancy were seen in 14 cases (16.28%) and 2 cases (2.33%) respectively. Both metastatic malignancies were adenocarcinoma. Overlapping findings were found in 2 cases (2.33%) and 2 cases (2.33%) were normal.

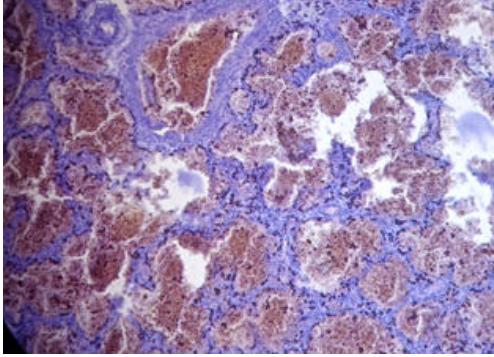


Figure 1: Pneumonia (Red hepatization) (H & E)

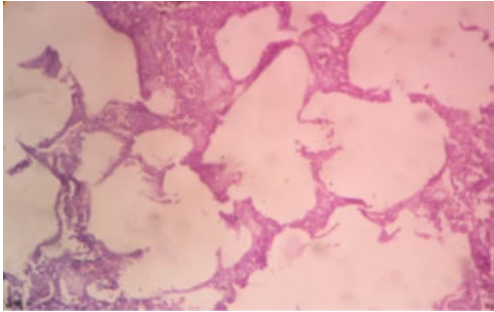


Figure 2 Emphysema of lung (H & E)

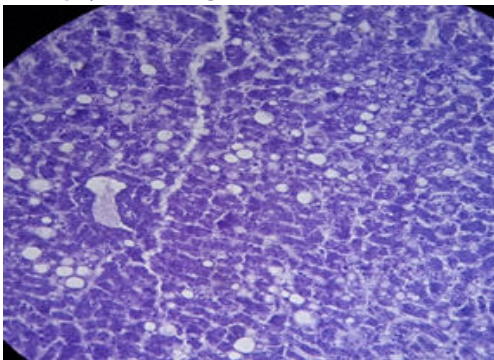


Figure 3: Fatty changes in liver (H & E)

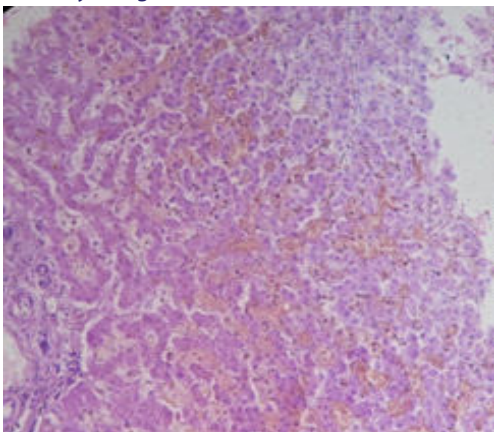


Figure 4: Dilated and congested sinusoids of liver (H & E)

CONCLUSION

A total of 72 cases of lungs and 86 cases of liver were included in the present study. Pneumonia was the most common histopathological finding in the lungs and Fatty changes were the most common histopathological findings in liver.

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