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A HISTOPATHOLOGICAL STUDY ON POST-MORTEM SPECIMENS RECEIVED TO DEPARTMENT OF PATHOLOGY, GOVERNMENT MEDICAL COLLEGE, KADAPA.

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Abstract
Histopahtological examination of post-mortem specimens is done to establish the cause of death, due to pathological changes in the tissues. Present study was done to between 2014 - 2015 (5 years study) consisting of 184 cases.
Keywords: Histopathology, Postmortem specimen, Emphysema, Chronic venous congestion of lung

INTRODUCTION

Clinical autopsy is also termed as pathological autopsy which is carried out to diagnose the cause of death when antemortem efforts have failed. Histopathological study is of great importance in improving the diagnostic step for clinical assessment.

The aim of the present study is to highlight the importance of Histopathological examination of viscera in post-mortem specimens, is not only to aid in ascertaining the cause of death but also a learning tool and stressing upon the fact that various rare diagnosis were made with the help of Histopathological techniques thus enriching the medical knowledge.

MATERIALS AND METHODS:

This is a prospective 5 year study done between 2014 – 2018 in which 184 cases received in the department of pathology were analysed with reference to light microscopic changes. In each case the clinical findings (Age, Sex, clinical changes, suspected cause of death and post-mortem changes) were obtained from post-mortem reports and inquest reports sent along with the viscera. The viscera were received in 10% formalin solution and then after tissue processing, routine staining using haematoxylin and eosin dyes was done. Ancillary aids like special stains eg PAS (periodic acid sciff's stains) and congo red was used according to need of case. The histopahtological findings were recorded in each case for diagnosis i.e the cause of death.

RESULTS

This study is conducted during 5 years period between 2014 to 2018 in which 184 cases in department of pathology was studied, age wise distribution shows highest incidence in 5^{th} to 6^{th} decade.

Chronic venous congestion of lung (43.47%) was the most common diagnosis. Second commonest lesion is fatty liver (17.39%), third common lesion – left ventricular hypertrophy (6.52%), atherosclerosis (6.52%), and chronic venous congestion of spleen (6.52%.

Respiratory system

In this system most common diagnosis was chronic venous congestion of lung (43.47%) followed by Emphysema (2.17%), lobar pneumonia (1.63%), chronic bronchitis and tuberculosis (0.54%).

Liver

The commonest lesion is fatty liver (17.39%), second common lesion is chronic venous congestion of liver (4.34%), secondaries liver (0.54%), chronic hepatitis (0.54%), hyaline change (0-.54%)

Cardiovascular system

The most common lesion is left ventricular hypertrophy (6.52%), Atherosclerosis (6.52%), old Infarct (0.54%), hyaline change of heart (0.54%), in coronaries- organised thrombus (0.54%), Monkeberg's sclerosis (1.08%).

Renal System

Tuberculosis, chronic pyelonephritis, chronic glomerulo nephritis, acute tubular necrosis, polycystic kidney, hyaline change, percentage of each lesion is (0.54%).

Gastro intestinal system

Stomach- Chronic atrophic gastritis (0.54%), Adeno carcinoma of stomach (0.54%).

Central nervous system

Cerebral oedema (0.54%)

Miscellaneous

Milliary tuberculosis (0.54%).

In the present study an important observation was made i.e, in about 21 cases more than one histopahtological diagnosis was made (Table 2). Rarest diagnosis is multi organ hyaline degeneration.

Table 1: Distribution of cases based on histopahtological diagnosis

S. No	Diagnosis	Number of cases	Percentage of lesions
1	Chronic venous congestion of lung	80	43.47
2	Emphysema	4	2.17
3	Lobar Pneumonia	3	1.63
4	Chronic Bronchitis	1	0.54
5	Tuberculosis of Lung	1	0.54
6	Chronic venous congestion of Spleen	12	6.52
7	Hyaline change of spleen	1	0.54
8	Chronic venous congestion of liver	8	4.34
9	Fatty liver	32	17.39
10	Hyaline change of liver	1	0.54
11	Secondaries Liver	1	0.54
12	Chronic hepatitis	1	0.54
13	Left ventricular hypertrophy	12	6.52
14	Old infarct of heart	1	0.54
15	Hyaline change of heart	1	0.54
16	Organised thrombus – coronaries	1	0.54
17	Monkeberg sclerosis – coronaries	2	1.08
18	Atherosclerosis of aorta	12	6.52
19	Tuberculosis of Kidney	1	0.54
20	Chronic pyelo nephritis	1	0.54
21	Chronic glomerulonephritis	1	0.54
22	Acute tubular necrosis	1	0.54
23	Poly cystic kidney	1	0.54
24	Hyaline change of kidney	1	0.54
25	Chronic atrophic gastritis	1	0.54
26	Adenocarcinoma of stomach	1	0.54
27	Cerebral oedema	1	0.54
28	Milliary tuberculosis	1	0.54

Table 2: Age wise distribution of histopathological lesions in postmortem specimens

AGE	Type of Lesions
0-10	Lobar Pneumonia
11-20	Chronic venous congestion of liver and lung
21-30	Chronic venous congestion of liver, lung and spleen
31-40	Chronic venous congestion of liver, lung and spleen, Fatty liver, Emphysema of lung and Poly cystic kidney
41-50	Atherosclerosis, Millary Tuberculosis
51-60	Left ventricular hypertrophy, Organized thrombus in coronaries, Fatty liver, Hyaline change in liver, spleen, kidney, Chronic atrophic gastritis, Monkeberg's sclerosis
61-70	Emphysema, Fatty liver, Adenocarcinom of lung, Acute tubular necrosis

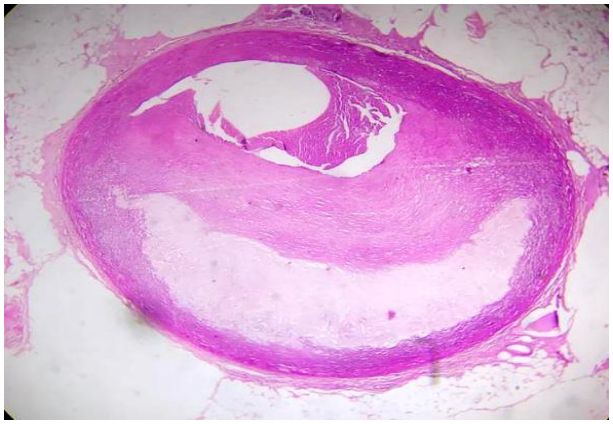

Figure 1: Atherosclerosis

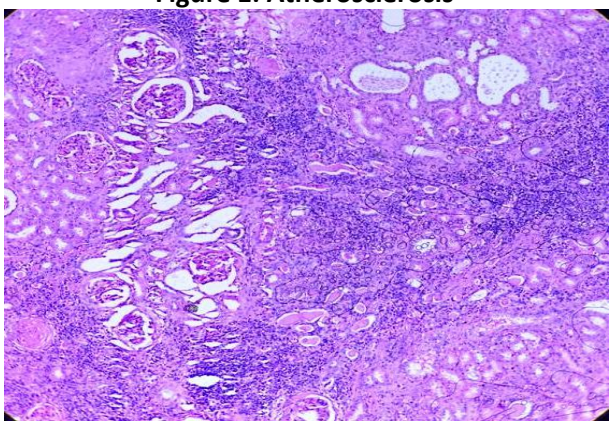

Figure 2: Chronic pyelonephritis

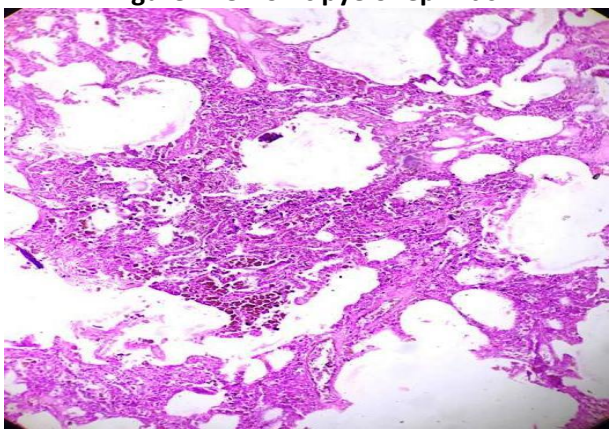

Figure 3: Chronic venous congestion of lung

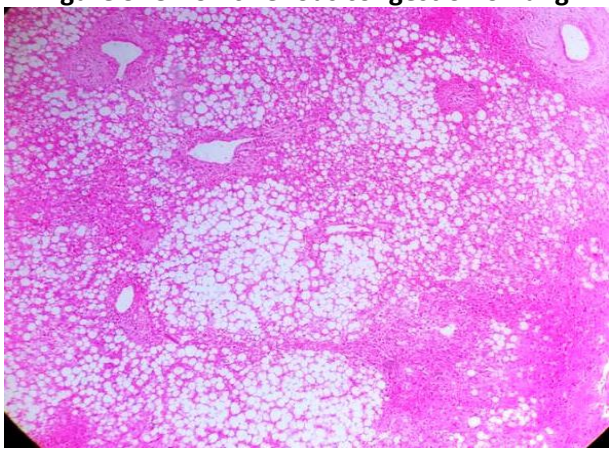

Figure 4: Fatty liver

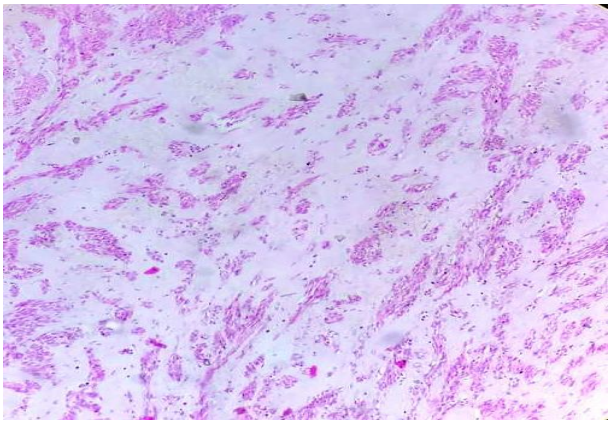

Figure 5: Hyaline change in leiomyoma

DISCUSSION

The present study was conducted in a period of 5 years in between 2014 to 2018. During this period 184 cases were studied in Department of pathology for Histopathological examination of post-mortem specimens. Present study maximum number of cases were identified in 5^{th} to 6^{th} decades of life. Male to Female ratio is 29:1 exhibiting male preponderance which is concordance with various studied. [1,2,3,4]

Respiratory system – In respiratory system maximum pathological lesions are chronic venous congestion of lung followed by emphysema, lobar pneumonia, chronic bronchitis and Tuberculosis. The present study results correlate with Manjits et al.[5] Chronic venous congestion was seen in 19 cases (19%) in study done by Kaur et al. [6] Chronic venous congestion – was noted by the presence of thickened alveolar walls, presence of numerous haemosiderin- laden macrophages (heart failure cells) within the alveolar lumens, and thickened vessel walls. Pneumonia was noted by the presence of vascular engorgement, intra-alveolar fluid with neutrophils, and often the presence of numerous bacteria and red cells, and fibrin filling the alveolar spaces. [6]

A study was done by Ohya in 1994 on 130 medicolegal cases to detect early Histopathological changes of lungs. In this study, pulmonary oedema and haemorrhage were noted, but the incidence of such changes did not reveal any significant difference among the causes of death. [7]

In the present study, the cases of pneumonia noted were 3 in number which accounted for 1.63% of the total cases. This was very low when compared to the study conducted by Chauhan et al (2015) where pneumonia was seen in 49 out of 335 cases (14.62 %).[8]

Liver – In the present study shows fatty liver is the major pathological lesion compared with Jaeschke H eta al. [9]

Determining the cause of death is an obvious objective of medico-legal autopsy. [10]

CONCLUSION

The study shows the commonest pathological lesions were identified in respiratory system followed by lesion of liver, cardiovascular system and renal system. Histopahtological examination of post-mortem specimens remains the most accurate method for detection of cause of death.

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