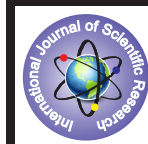


Incidental & Interesting Histopathological Findings in Medicolegal Autopsies



Medical Science

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ABSTRACT

Introduction: An autopsy consists of a thorough examination of a corpse to determine the cause and manner of death and to evaluate any disease or injury.

Aims: To determine the histopathological findings related or unrelated to the cause of death and to highlight various incidental and interesting microscopic findings in autopsies.

Methods and Material: Retrospective study for one year was carried out. Organs of total of 227 autopsies were received. Various histopathological findings were observed in 146 cases.

Results: Out of the various organ received for histopathological examination, 83 Atherosclerosis, 32 Pneumonia, 8 Cirrhosis, 8 Tuberculosis, 2 fungal infections, glioblastoma multiforme etc. were observed.

Conclusions: Atherosclerosis is commonest finding followed by pneumonia. Incidental histopathologic findings may not be found to influence the cause of death but nonetheless reveal many interesting facts related to epidemiology and influence of gender and age related factors in causation of certain pathological changes.

INTRODUCTION:

An **autopsy** also known as a **post-mortem examination**, is a highly specialized surgical procedure that consists of a thorough examination of a corpse to determine the cause and manner of death and to evaluate any disease or injury that may be present. Autopsies are performed for either legal or medical purposes. The term "autopsy" derives from the Ancient Greek autopsyia, "to see for oneself", derived from autos ("one-self") and opsia ("eye").¹

Giovanni Morgagni (1682–1771), celebrated as the father of anatomical pathology,² wrote the first exhaustive work on pathology, *De Sedibus et Causis Morborum per Anatomen Indagatis* (The Seats and Causes of Diseases Investigated by Anatomy, 1769).¹ A systematic review of studies of the autopsy calculated that in about 25% of autopsies a major diagnostic error will be revealed.³ However, this rate has decreased over time. , it is thought that over one fifth of unexpected findings can only be diagnosed histologically, i.e. by biopsy or autopsy, and that approximately one quarter of unexpected findings, or 5% of all findings, are major and can similarly only be diagnosed from tissue.

There are four main types of autopsies:⁴

- Medico-Legal Autopsy or Forensic or coroner's autopsies
- Clinical or Pathological autopsies
- Anatomical or academic autopsies
- Virtual or medical imaging autopsies are performed utilizing imaging technology only⁵

Various histopathological findings unrelated to the cause of death are noticed in routine histopathological examination of medicolegal autopsies. These findings which sometimes are of practically no significance to the autopsy report however have an immense academic value. The final autopsy report contains the pathology of the organs which caused the death.

This study highlights the various incidental microscopic findings in medicolegal autopsies, which gain a prime importance in academic and research purposes.

AIMS AND OBJECTIVES:

- To determine the histopathological findings related or unrelated to the cause of death.
- To highlight various incidental and interesting microscopic findings in autopsies.

MATERIALS AND METHODS:

Retrospective study of medicolegal autopsies for one year 2012 was conducted at the department of Pathology, N.H.L.Municipal Medical college, ahmedabad.

The organs relevant to the case concerned were sent for histopathological examination. In most of the cases , heart, liver, spleen, kidneys, brain and lungs were sent. Representative bits from the concerned organs were processed in a routine manner. The gross and microscopic findings were taken into consideration and a brief discussion of the salient features has been made. All sections were stained with haematoxylin and eosin(H & E) stain.

RESULTS:

The present study consists of 118 cases of autopsy findings from v.s.general hospital, Ahmadabad from January 2012 to December 2012 for 1 year.

Organs of total of 227 autopsies were sent for histopathological examination during the year 2012. Out of the various organs sent for histopathological examination, various histopathological findings are stated below. Significant histopathological findings were observed in 146 cases of which 15 were brought dead to V.S.general hospital.

Table 1: All histopathological findings in autopsies

Finding	Number of cases
Atherosclerosis	82
Pneumonia	32
Cirrhosis	8
Tuberculosis	8

Chronic pyelonephritis	6
Meningitis	3
Polycystic kidney	1
Glioblastoma multiforme	1
Aspergillosis	1
Squamous cell carcinoma cervix	1
Disseminated cryptococcal fungal infection	1
Neuroblastoma	1
DIC	1

Table 2: Incidental findings in cases brought dead to v.s.general hospital

Serial number	Age/sex	Incidental findings
1	70/M	Atherosclerosis
2	40/M	Atherosclerosis
3	48/M	Atherosclerosis
4	59/M	Atherosclerosis
5	60/F	Chronic pyelonephritis, Atherosclerosis
6	65/F	Atherosclerosis
7	43/F	Atherosclerosis
8	42/M	Atherosclerosis
9	58/M	Atherosclerosis
10	20/M	Bronchopneumonia
11	36/M	Atherosclerosis
12	50/M	Atherosclerosis
13	58/M	Cirrhosis, Atherosclerosis
14	61/M	Atherosclerosis
15	60/M	Atherosclerosis

Table 3: Incidental findings in other cases

Serial number	Age/sex	Clinical history	Histopathological findings
1	37/F	Breathlessness	Cirrhosis
2	28/F	Mass lesion- brain	Glioblastoma multiforme
3	38/F	Sudden unconsciousness	Pulmonary tuberculosis
4	55/F	Known case of hypertension & ischemic heart disease	Adult polycystic kidney disease
5	72/M	Pneumonia, Chronic obstructive pulmonary disease	Aspergillosis
6	45/M	Breathlessness	Pulmonary tuberculosis
7	57/F	Hypertension, convulsion	Military tuberculosis
8	38/M	Vomiting, chest pain	Cirrhosis
9	32/M	Generalised convulsion, abdominal pain	Disseminated cryptococcal infection
10	60/M	Chest pain, diabetes mellitus, hypertension	Cirrhosis
11	52/M	History of fall from height	Cirrhosis, atherosclerosis
12	25/F	Aniline dye poisoning	Microthrombi in brain, lung, liver - DIC

Chronic pyelonephritis were noted in 6 cases.

Cirrhosis were noted in 8 cases. 4 cases were between 51-60 years age group. Two cases were in 31-40 years and one was 62 years and the other one 87 years old. Total 5 males and three females were noted. In four cases it was detected incidentally. Two cases presented with hepatic encephalopathy. And other two were chronic alcoholic with cirrhosis.

Table 4: Age distribution of cirrhosis

Age range (years)	Numbers
0-20	-
21-40	2
41-60	4
61-80	1
>80	1
Total	8

Tuberculosis were noted in 8 cases. Of all the cases 4 were between 31-40 years age group. Two were between 41-50 years, one 57 years and one 15 years old. 5 were females and three were males out of eight. Out of 8, three came to hospital with breathlessness, three were diagnosed cases of tuberculosis and two were brought dead to hospital.

Table 5: Age distribution of tuberculosis

Age range (years)	Numbers
0-20	1
21-40	4
41-60	3
61-80	-
>80	-
Total	8

Gliblastoma multiforme was detected in a 28 year old female. Patient was detected with mass lesion on computerised tomographic imaging study of brain. Section taken from brain revealed glioblastoma multiforme.

One case was of adult polycystic kidney disease of 55 year old female. Patient was known hypertensive and had ischaemic heart disease. Sections from both kidneys revealed congestion, focal glomerulosclerosis and multiple cysts lined by flattened epithelium suggestive of adult polycystic kidney disease.

In one case aspergillus fungal infection was noted in 72 year old male. Patient was diagnosed with pneumonia and chronic obstructive pulmonary disease. Patient was also diagnosed with swine flu. One lung revealed branched septate hyphae of aspergillus suggestive of fungal infection.

Squamous cell carcinoma of cervix was noted in a 60 year old female. It was diagnosed as squamous cell carcinoma. It was extending into uterine corpus (endometrial and myometrial wall). Sections from cervix revealed large cell keratinizing squamous cell carcinoma.

Cryptococcal infection was noted in a 32 year old male. Patient presented with generalised convulsion and abdominal pain. Patient was a known case of **Acquired immunodeficiency syndrome**. Disseminated fungal infection was noted in brain, lung, liver and kidney.

Small round cell tumor was noted in 7 year old male. Patient was known case of **neuroblastoma** and was on chemotherapy. It was metastatic to kidney, liver and hilar lymph node.

One case was of aniline dye ingestion of 25 year old female and diagnosed clinically as **disseminated intravascular coagulation**. **Microthrombi** was present in **brain, lungs and liver**.

Table 6: age wise distribution of atherosclerosis cases

Age range (years)	Numbers
0-20	2
21-40	18
41-60	40
61-80	21
>80	1
Total	82

From table 6, it is evident that atherosclerosis is most common in 41-60 years age group.

Table 7: sex wise distribution of atherosclerosis cases

Age range(years)	Male	Female
0-20	2	-
21-40	14	4
41-60	34	6
61-80	19	2
>80	-	1
Total	69	13

69 cases were observed in males and 13 were in females.

Table 8: age wise distribution of pneumonia cases

Age range (years)	Numbers
0-20	1
21-40	13
41-60	10
61-80	7
>80	1
Total	32

Most common age group is 21-40 years. Total 14 cases were between 0-40 years age group. Of these 14 cases, 10 cases were due to aspiration of material (aspiration pneumonia).

Table 9: sex wise distribution of pneumonia cases

Age range(years)	Male	Female
0-20	-	1
21-40	10	3
41-60	7	3
61-80	7	-
>80	-	1
Total	24	8

Total 6 cases of chronic pyelonephritis were present. Two were in 61-80 years age group, 3 were in 41-60 years age group and one was 32 years old.

Out of 6, 3 were males and 3 were females.

CONCLUSION:

Incidental histopathologic and Gross findings in autopsies may not be found to influence the cause of death but nonetheless reveal many interesting facts related to epidemiology of a disease as well as influence of gender and age related factors in causation of certain pathological changes e.g., atherosclerosis.

A detailed and both prospective as well as retrospective 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.

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