

## Histopathological Findings in Spleen on Autopsy—A Study of 100 Cases.

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### ABSTRACT

**Background:** Autopsies are carried out to establish the identity, cause of death, time of death, and antemortem or postmortem nature of death. These help in establishing the cause of death and ascertain the disease process which led to death. It provides the opportunity to discover new diseases, to evaluate toxic effects of drugs and therapies. The spleen is the site of direct and indirect toxicity, a target for some carcinogens, and also a site for metastatic neoplasia. Many systemic or generalized diseases have splenic involvement. **Methods:** The present study was conducted on 100 specimens of spleen on routine autopsies received in the department of pathology, Government Medical College, Patiala, Punjab to find out the frequency of various lesions in spleen on autopsy. All the histological sections were stained in H & E stain, mounted, examined microscopically & findings were recorded and tabulated. **Results:** 80 of the 100 autopsies were males, while 20 were females. In 81 (81%) cases, the microscopic findings were congestion, hemorrhage in 8 cases (8%), 7 cases (7%) had autolytic changes, 1 case (1%) had necrosis, granulomatous pathology were seen in 2 cases (2%) and 1 case (1%) had leukemic infiltration. **Conclusion:** Despite recent advances in diagnostic technology, there is large number of cases of preventable diseases for which the autopsy has remained an important complementary tool for identifying.

**Keywords:** Autopsy, Histopathology, Spleen.

### INTRODUCTION

Histopathological examination is important for assessing statistics of mortality which are essential for public health and health service planning.<sup>[1]</sup> Histopathology is an important and most useful way to find out the conditions of internal visceral organs.<sup>[2]</sup> Autopsy aids to the knowledge of pathology by unveiling the rare lesions which are a source of learning from a pathologist's perspective.<sup>[3]</sup> The spleen is one of the most commonly injured organs following blunt abdominal trauma.<sup>[4]</sup> The significance of spleen lies in the potential of overlooking the correct diagnosis as the cause of a spontaneous splenic rupture with intra-abdominal hemorrhage, thus leading to the false conclusion of a violent death.<sup>[5]</sup> The spleen can be a troublesome specimen for the surgical pathologist, not only because experience with the range of "normal" splenic histology is limited by its rarity but also

because there is often a frustrating discordance between the patient's clinical condition and the perceived findings.<sup>[6]</sup> Pathologic changes in spleen in primary biliary cirrhosis were congestion and fibrosis.<sup>[7]</sup> Thermal burns and related injuries are major cause of death and disability.<sup>[8]</sup> DHF is a systemic viral infection causing multiorgan pathology. Liver, lungs and spleen are the most commonly affected organs.<sup>[9]</sup> Histopathological examination in medicolegal postmortem examination is amongst the additional investigations" that is aimed to procure further information pertaining to cause and circumstances of death.<sup>[10]</sup> Tuberculosis (TB) is a major cause of morbidity and mortality globally.<sup>[11]</sup> Despite the availability of effective treatment for most cases, tuberculosis is still a cause of death in our environment.<sup>[12]</sup> There are many cases of tuberculosis which remain undiagnosed and are diagnosed only at autopsy.<sup>[13]</sup> Spontaneous splenic rupture is an uncommon serious complication of acute leukemia.<sup>[14]</sup> Autopsy study of cases with unexplained fever turn out to be malarial death.<sup>[15]</sup>

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#### Aims and Objective

The main aim of this study was to analyze the findings by the histopathological examination in

spleen tissue received in autopsy specimens and to determine the underlying diseases and associated comorbidities

### MATERIALS AND METHODS

The present study was conducted on 100 specimens of spleen autopsies received in the Department of Pathology to find out the frequency of various spleen lesions in autopsy. The medical history and clinical history was traced. The received specimens of spleen were fixed in 10% formalin, weighed and dimensions measured were recorded. All the histological sections were stained in H & E stain & mounted. All the histological sections were examined.

### RESULTS

100 specimens of spleen from autopsy subjects were received at the autopsy section of the Pathology Department out of the which 80 (80%) were males and 20 (20%) were females as shown in [Table 1].

Table 1

Gender	0-20	21-40	40-60	>60
Males	17	39	18	6
Females	3	11	5	1

Table 2

Histopathological findings	No. of Cases
Congestion	81 (81%)
Hemorrhage	8(8%)
Autolytic changes	7(7%)
Necrosis	1(1%)
Granulomas	2(2%)
Leukemic infiltration	1(1%)

#### Gross examination



Figure 1: Showing congested spleen.



Figure 2: showing cut surface of congested spleen.

In present study, the microscopic findings were congestion in 81 (81%) cases, hemorrhage in 8 cases (8%) ,7 cases (7%) had autolytic changes,1 case (1%) had necrosis, granulomatous pathology were seen in 2 cases (2%) and 1 case (1%) had leukemic infiltration. shown in [Table 2].

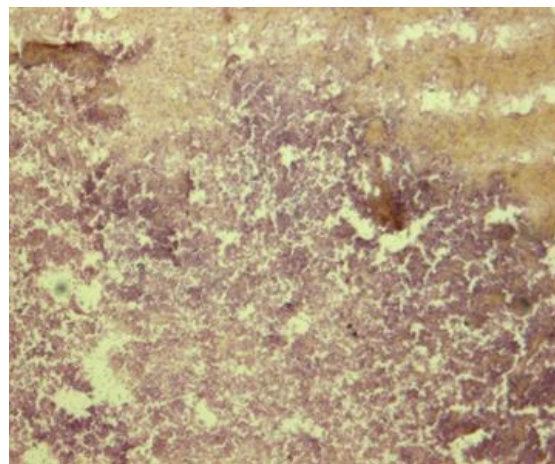


Figure 2: Microscopic picture show congestion and hemorrhage in spleen on H&E(X40).

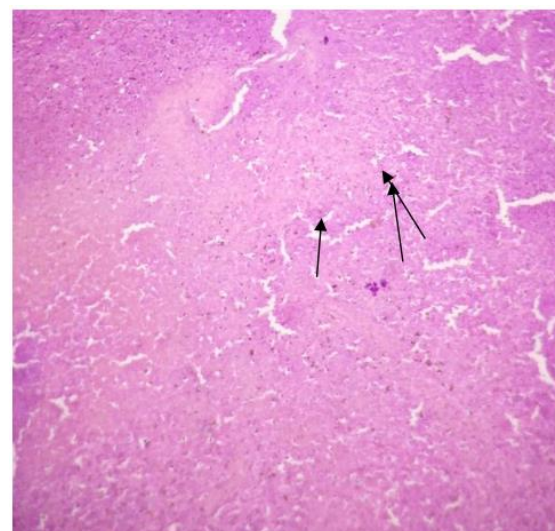


Figure 3: Microscopic picture show necrosis in spleen on H&E(X40)

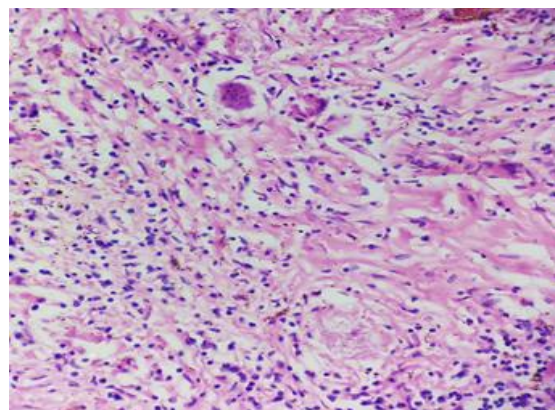


Figure 4: Microscopic picture show Granuloma in spleen on H&E(X40)

## DISCUSSION

Study done by Zulu et al showed the male to female ratio 4.2:1 and median age 33 years age.<sup>[4]</sup> This is in concordance with our study in which the male to female ratio 4:1

In the present study, congestion is seen in 81% autopsies. Congestion in spleen is seen in 76% of cases by KAP Idrisinghe which is in concordance with present study in which congestion seen in 81% of cases.<sup>[9]</sup>

Study done by Sangma et al showed 5.41% cases of disseminated TB which is in concordance with our study in which granulomatous pathology is seen in spleen in 2 % of cases.<sup>[13]</sup>

## CONCLUSION

Present study shows that the most common findings are congestion and hemorrhage as terminal events of death. Despite recent advances in diagnostic technology, there is large number of cases of preventable diseases for which the autopsy has remained an important complementary tool for identifying.

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