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Original Research Article

Histopathology Wisdom from the Dead - Incidental Findings in Autopsy

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Abstract:
Aim of this study is to discuss various incidental/interesting cases in autopsy including neoplastic/non neoplastic lesions. Pathologist plays an important role in finding out the real cause of death in the suspicious cases. Histopathological examination in postmortem cases have role in finding out cause of death. The aim of this study is to discuss various incidental / interesting findings in autopsy including neoplastic/ nonneoplastic lesions over a period of one year from March 2023 to March 2024 in a tertiary care centre with the help of Forensic specialists. The specimens were received from our forensic medicine department, they were grossed and the findings are recorded.The specimens are further processed as per standardized protocols and cases reported as per guidelines.

Keywords: Medico legal autopsy,incidental findings, neoplastic lesions, Forensic specialists, specimens.

Introduction

Medicolegal autopsy is performed to reveal the primary cause of death. Histopathological examination plays important role in finding out the cause of death in sudden unexplained death. Histopathological examination of autopsy specimen shows unidentified findings which were either asymptomatic or unnoticed when the person was alive. The age group of the discussed cases are between 11 to 65 years (fig- 9) with median age of 47 years, mostly male population(fig 10) with benign lesion(fig 10).

Materials and Methods:

Place of study: Govt Stanley Medical College and Hospital Chennai.

Period of study: 1 year from March 2023 to March 2024.

Type of study: Retrospective cross sectional study.

Study Material: 475 Autopsy specimen were studied with routine Hematoxylin and Eosin staining. Age, Gender, Clinical and Histopathology entities were noted and analysed.

All the specimes were fixed with 10% Neutral buffered formalin. After adequate fixation, specimens were submitted for routine processing, followed by paraffin embedding and stained with hematoxylin and eosin. Immunohistochemical panel was used in required cases for further diagnosis. The results are tabulated and statistically analyzed.

Results and Discussion:

Case 1 – Thymic Hemorrage

11 Year old child Alleged history of self-fall while playing in school campus.

Histopathological examination Thymus– Thymic hemorrhage [1,2,3]. Thymic hemorrhage: Thymic hyperplasia followed by hemorrhage is a rare case. Thymic cyst predisposing them to massive hemorrhage followed by trauma and respiratory obstructions. Incidence 0.13 and 0.32/100,000/year.

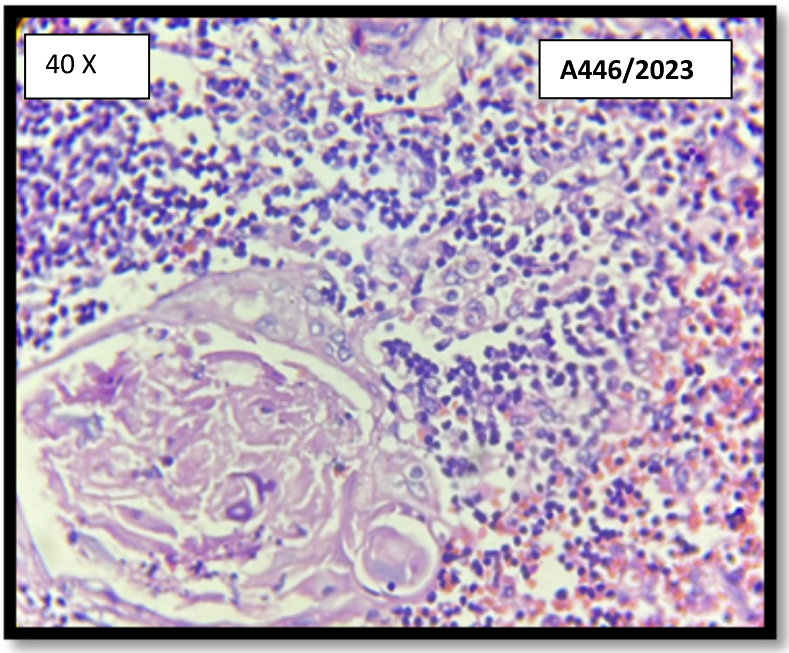

Figure 1: Photomicrograph showing of thymic hemorrhage 40 x magnification (high power view)

Case 2 – Diatoms

52 years male with alleged history of drowning in storm water. **Histopathological examination Lung** – Pulmonary oedema with presence of Diatoms [4,5].

Diatoms:

Microscopic unicellular photosynthetic algae. Silicone cell wall – resists digestion/putrefaction during drowning in the suicidal/accidental drowning.

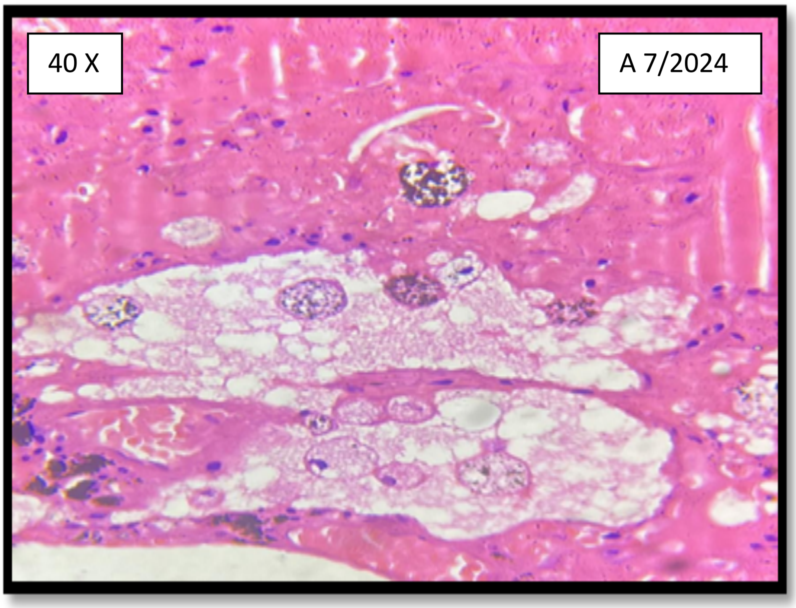

Figure 2: Photomicrograph showing lung parenchyma with diatoms - 40 x magnification (High power view)

Case 3 – Fat Embolism

62 year/ male alleged history of self-fall in bathroom and had right intertrochanteric fracture femur. **Histopathological examination Lung revealed** –Fat embolism [6,7,8,9]. Fat embolism syndrome occurs when fat enters the blood causes sudden death, Symptoms generally begin within a day. The risk of death is about 10%.

Fat embolism most commonly occurs as a result of fractures of bones such as the femur or pelvis.

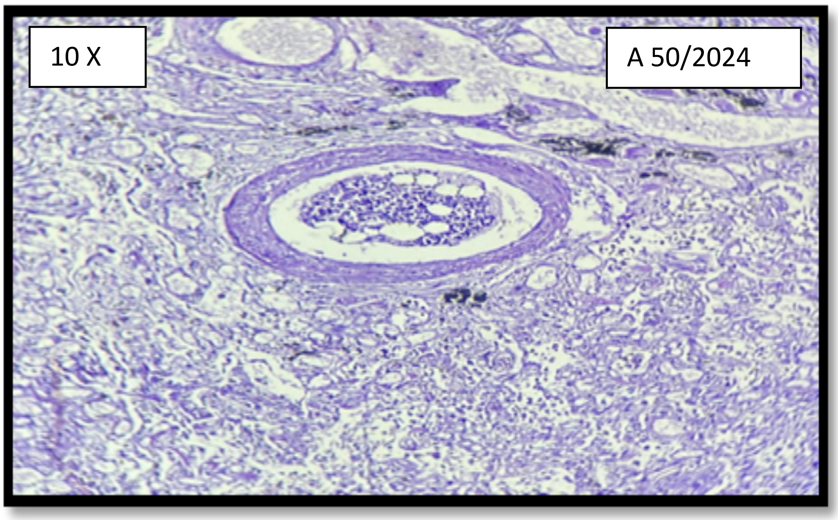

Figure 3: Photomicrograph showingLung revealed –Fat embolism - 10 x magnification (low power view)

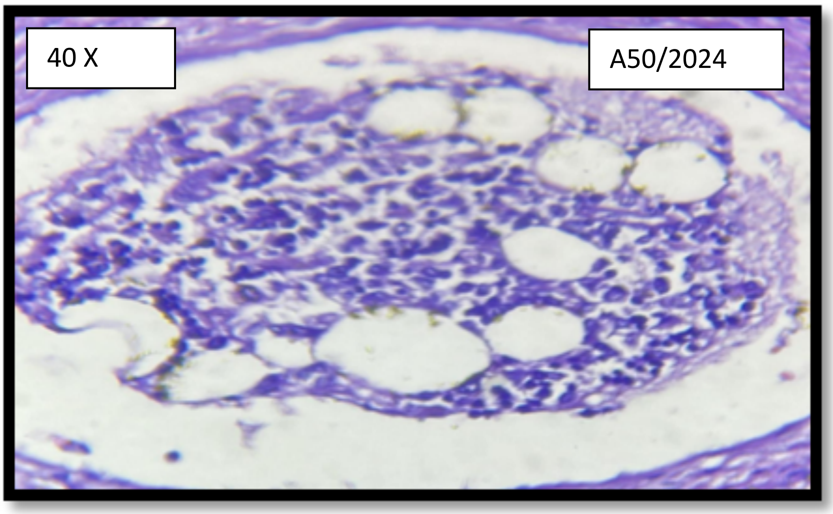

Figure 4: Photomicrograph showing Lung revealed –Fat embolism - 40 x magnification (high power view)

Case 4 – Hyalinising Perisplenitis

64 years / male History of death followed by trauma. **Histopathological examination of Spleen** –Hyalinisingperisplenitis[10].

Hyalinisingperisplenitis: Hyaline perisplenitis refers to the presence of a thick layer of tan-white nodules and fibrous plaques on splenic surface.

It is often an incidental finding during autopsy.

Figure 5: Gross Picture of Hyalinising perisplenitis

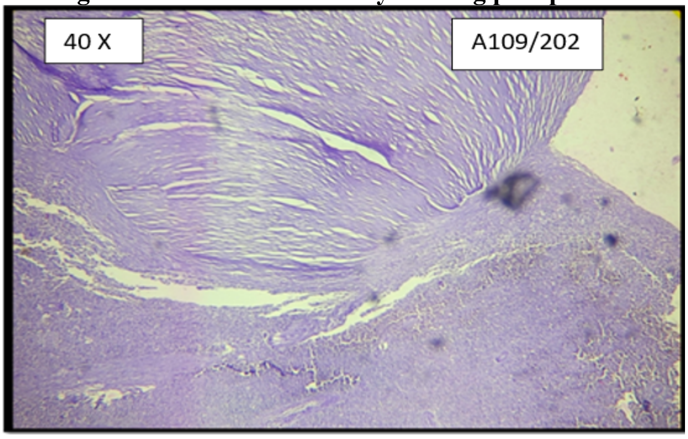

Figure 6: Photomicrograph of Spleen – showing Hyalinising perisplenitis 40 x (high power)

Case 5 - Neuroendocrine Carcinoma

47 years Female known case of Carcinoma rectum. **Histological examination of Liver**– Metastatic carcinomatous deposit- Neuroendocrine carcinoma [11,12]: Well-differentiated neuroendocrine tumors are globally increasing in prevalence and the liver is the most common site of metastasis –**Incidental finding** -Metastatic carcinomatous deposit- Neuroendocrine carcinoma .

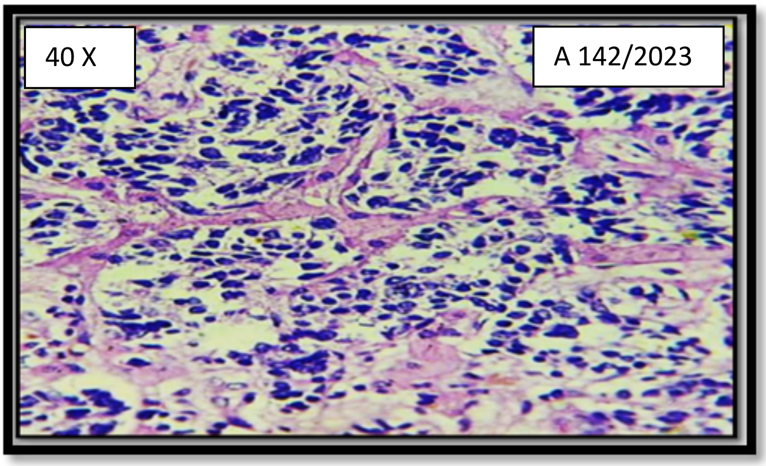

Figure 7: Photomicrograph of Liver – showing Metastatic carcinomatous deposit- Neuroendocrine carcinoma 40 x (high power)

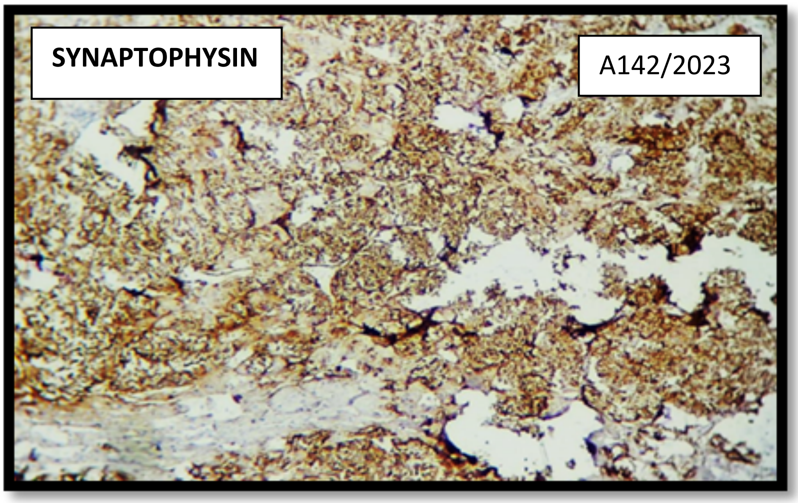

Figure 8: Photomicrograph of Liver – showing IHC –Synaptophysin .Metastatic carcinomatous deposit-Neuroendocrine carcinoma. 40 x (high power)

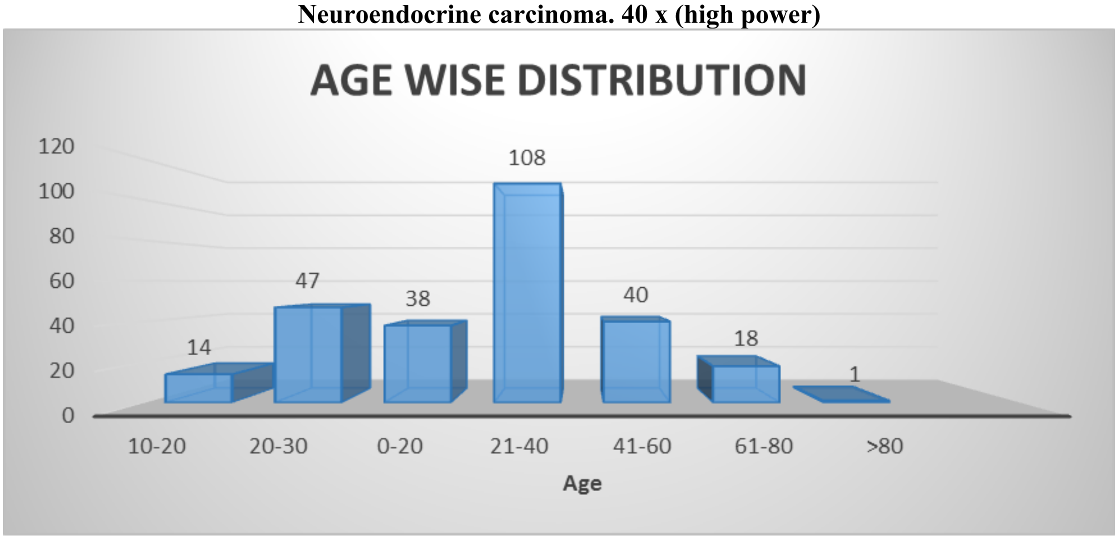

Figure 9: Age distribution

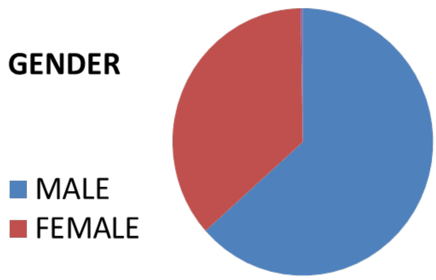

Figure 10: Sex distribution

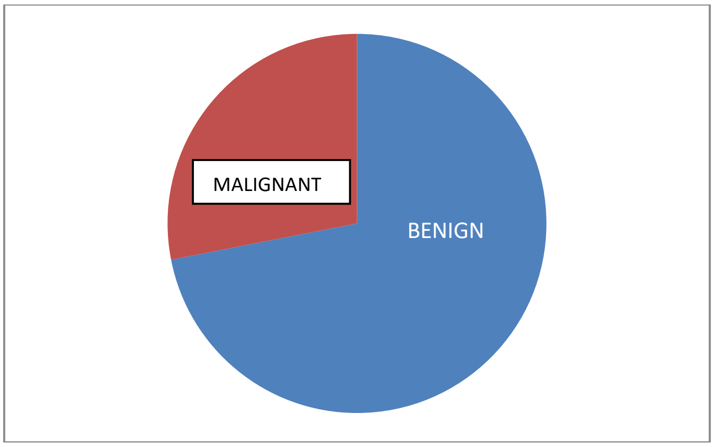

Figure 11: Histopathological spectrum

Conclusion

These cases has been presented to emphasize the importance of histopathological examination - autopsy specimens will reveal coexisting disease/ incidental findings which could have been primary cause of death.

Histopathological examination is helpful in finding out cause of death of sudden death in various age group and genders.

These findings also helpful to screen for inherited disorders in other family members and to find the rare disorders.

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