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CASE REPORT

An unexplained death in the COVID-19 isolation ward: A case report

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Abstract

A 35-year-old male was referred for autopsy from a District Headquarter hospital, where he was admitted to the COVID isolation ward with suspicion of being infected. His clinical history was a day of fever with chills and abdominal pain. He was alone overnight in the isolation ward post collection of his nasal swabs for screening and blood for routine laboratory tests. However, he was found lying dead on the floor within 18 hours of hospitalization.

Keywords

COVID 19; Sudden death; Unexpected death; Medico-legal autopsy

Introduction

Sudden or unexpected death occurs from unnatural means mostly by road traffic accidents, poisoning, violence or assault, etc. [1] Various works of literature show that there are numerous organic pathologies inside the human body which are fatal and can cause natural death of a healthy person before any medical diagnosis. The World Health Organization defines sudden death as when a person not known to have been suffering from any dangerous disease, injury, or poisoning is found dead or dies within 24 hours after the onset of a terminal illness.[2] Unnatural, suspicious deaths must be investigated to determine the actual cause of death.

COVID-19 is Corona Virus Disease caused by a novel coronavirus known as SARS-CoV-2, a β-coronavirus. It was first reported in Wuhan, China at the end of 2019 and gradually reported all over the world. [3] WHO declared it as pandemic on 11th March 2020. As of today, it is a global burden with over a million positive cases and lakhs of deaths. In India, the first case of COVID-19 was reported in Kerala on 30th January 2020 and since then the number of positive cases has increased with increasing mortality.[4] Considering the huge number of cases and its impact on health, especially mental aspect, a diffused panic is prevalent not only amongst frontline workers (so-called COVID warriors) but also amongst the common population. We hereby report a case of sudden unexpected death of a young adult found on the floor in a COVID 19 isolation ward of a government tertiary care center without any contact history but suffering from fever and mild abdominal pain which was found later to be a case of acute biliary septic shock (ABSS) following a meticulous post mortem examination.

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Case study

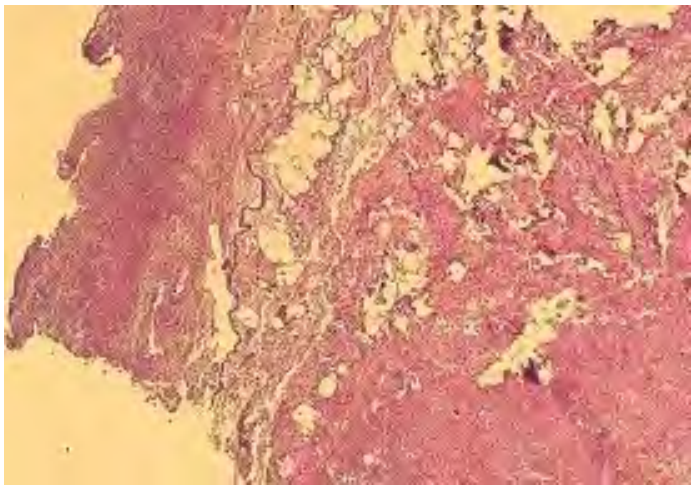
A 35-year-old, unmarried male, data entry operator by occupation in a government office, engaged in registration of migrant workers due to COVID 19, reported to OPD of district headquarter hospital with complaints of fever, and mild abdominal pain for one day. He was immediately admitted to the COVID isolation ward where no other patient was present after collection of his nasal swabs, blood for CBC. The patient spent the whole night alone in that ward. He had established communication with relatives over the telephone during this process. However, the next day he did not respond to calls and when the nurse entered to check on him, he was found dead near the bathroom. An inquest was done over the body and referred for autopsy. An autopsy was done after the COVID test which came as negative. The relatives revealed that he was suffering from fever with chills and complained of abdominal pain for one day without any other notifiable medical problems. The deceased was looking healthy with irregular marks of abrasion around the neck (Fig 1 and 2) with congested face and conjunctivae. There were no perceptible injuries over the body except the same type of abrasion on the inner side of the right flank, perineal region, and on the inner side of the right ankle. There were red ants crawling over the body. On dissecting the skin underneath of neck injuries suspicion regarding neck compression was ruled out. The heart and lungs were intact without any gross features of any pathology. Blood was collected from the heart for a thick smear to rule out Malaria. The stomach contains around 200 ml of blackish fluid with pungent odour and with a healthy inner mucosal wall. The liver (Fig 3) was intact but appeared smaller than the normal size and weighed 1000gm. During the collection of routine viscera for poisoning whitish pus-like fluid was seen gushing from the gall bladder. The luminal surface of the gall bladder was found

flattened and smeared with whitish pus. All structures of the three cavities were found intact without any gross pathological changes except the findings in the liver and gall bladder. The cause of death remained obscure even when the liver and gall bladder tissue was subjected to histopathological examination. On further inquiry, a relative revealed a history of abdominal pain 2 years back following which the patient was advised to take a bland diet but there were no supportive prescription or imaging documents.

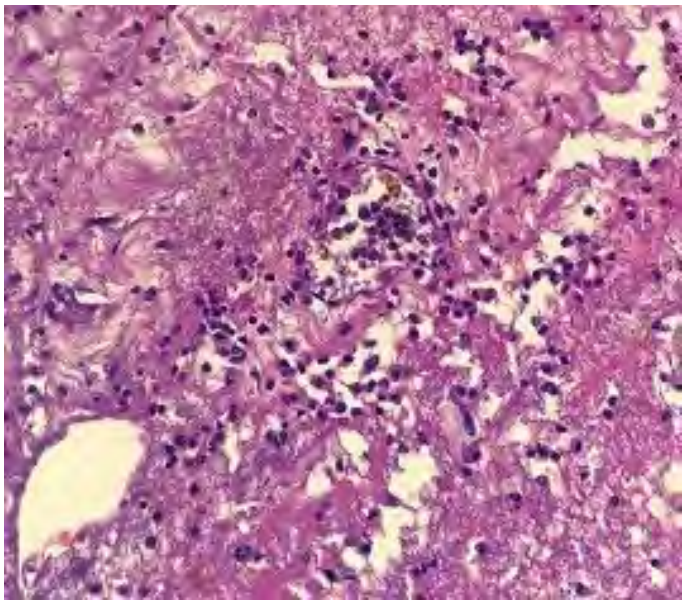
The histological examination of sections from the right lobe liver and gall bladder was performed in our histology laboratory. Microscopy showed necrotizing cholecystitis along with fat necrosis on the wall of gall bladder (Fig 4 and 5) with normal liver architecture. Postmortem blood smear for malaria came as negative. Total leucocyte count was 11,800 and the differential count (DC) showed neutrophilia (82%). From our autopsy findings, previous medical history of the deceased, haematology findings, and histopathological examination we opined the cause of death as acute biliary septic shock (ABSS) which is a natural disease process.

Figures 1 and 2: External examination of neck showing suspected ligature mark

Figures 3: Cut section of liver along with gall bladder



Figures 4: Necrotizing cholecystitis and fat necrosis as seen under microscope (40X)



Figures 4: Necrotizing cholecystitis and fat necrosis as seen under microscope (100X)

Discussion

When a disease is undiagnosed and the medical officer is unable to certify the cause of death then such cases should be subjected to autopsy. In especially brought dead and sudden unexpected death of young, police is usually informed to book the case under the medico-legal category, to rule out any foul play, and to decipher the cause of death. Sudden unexpected natural death (SUND) in an adult without any significant history of prolonged illness has been a subject of continuing interest amongst medical professionals. Chaturvedi et al. studied SUND in young adults chiefly in the age group of 30-35 years and observed that non-cardiac causes significantly predominated (73.4%) over cardiac causes (7.8%) and

gastrointestinal (GI) diseases including hepatic and pancreatic diseases, were the leading cause of death.[5]

The acute presentation of empyema gall bladder is pain over the upper abdomen of varying degrees from mild to a severe degree, fever with chills, and being associated with leucocytosis.[6] There were cases where neither bile duct obstruction nor cholangitis was observed, although the septic focus was in the biliary tract. [7] E. coli was the most common aerobic pathogen in the bile and blood culture.[6] Those cases which were not intervened early, died of septic shock, or by multi-organ failure.

Conclusion

Early detection and early surgical operation might have saved some expired ABSS patients and reduced the high mortality incidence. In this particular autopsy, external marks on the neck and the stomach findings created misperception but due to meticulous post-mortem examination along with histopathological examination we were able to ascertain cause of death.

Ethical clearance: A prior approval was obtained from the Institutional Ethics Committee

Conflict of interest: None to declare

Source of funding: None to declare

References

1. Modi's Medical Jurisprudence and Toxicology; Butterworth's (ed.) 24th, 2012; p443 – 444.
2. Reddy K S N. The essentials of Forensic Medicine & Toxicology. Jaypee Brothers Medical Publisher; 33rd edition, 2014. p150
3. Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. Lancet. 2020. https://doi.org/10.1016/S0140-6736(20)30185-9.
4. Unnithan PS. Kerala reports first confirmed coronavirus case in India. India Today. 2020.
5. Chaturvedi M, Satoskar M, Khare MS, Kalgutkar AD. Sudden, unexpected and natural death in young adults of age between 18 and 35 years: A clinicopathological study. Indian J Pathol Microbiol. 2011;54(1):47.
6. Brahma RC, Bora B, Thengal D. Clinical study of empyema of gall bladder in Assam medical college and hospital, India. Int Surg J. 2016;3(3):1329-35.
7. Liu TJ. Acute biliary septic shock. HPB Surgery. 1990;2(3):177-83.