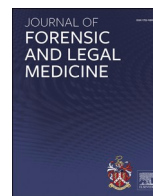




Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



COVID-19 instigates resurgence of 'needless autopsies' issue in India

ARTICLE INFO

Keywords

Autopsy
COVID-19
Medicolegal
Needless

ABSTRACT

COVID-19 has swamped the entire world and turned into a pandemic. Its high contagiousness compelled authorities to categorize all autopsies as 'high risk' considering the risk of exposure to the healthcare workers. In India, the Criminal Procedure Code authorizes investigating police officer to hold an inquest into suspicious deaths. The present article draw attention towards the 'needless autopsies' in times of COVID-19 and emphasizes on causes and recommendations.

Wuhan, the capital of Hubei, China, reported the first case of coronavirus disease 2019 (COVID-19), which causes serious respiratory illness in human.¹ Its causative agent belongs to coronavirus family, like SARS-CoV and Middle East Respiratory Syndrome (MERS), and has been named as severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2).² Exponentially, COVID 19 outbreak spread across China and swamped the entire world, unfolding into a pandemic. The Advisory Committee on Dangerous Pathogens within the Health and Safety Executive has categorized SARS-CoV-2 as a HG3 (hazard group 3 organisms).³ SARS-CoV-2 is transmitted via respiratory droplets through inhalation or contaminated surfaces. The effect of this highly contagious virus was such that, almost all the affected countries went into a lockdown, limiting movements of the entire population. Autopsies have been categorized as 'high risk' for the risk of exposure to health care workers (HCWs).⁴ Considering the infectivity rate (R_0) of the disease, even the handling and performance of the last rites of the infected body are being regulated with due infection prevention and control measures.

Section 174 of the Code of Criminal Procedure (CrPC), India, authorizes the investigating police officer to hold an inquest into suspicious, and unnatural deaths.⁵ 'Unnatural deaths' include death resulting from suicides, homicides, accidents, animal attack, and occupational mishaps etc. In India, sudden deaths, without any certified cause of death are labelled as medicolegal, and autopsy is conducted to find the cause of death. In India, under the aegis of aforesaid Section 174 CrPC, innumerable cases are referred for medico-legal autopsy that should be considered as highly needless. The term 'needless autopsy', encompasses the hospitalized unnatural as well as natural deaths where cause of death can be certified by the treating doctor. The mechanism and pathophysiology is well-understood in deaths occurring in hospital due to head injuries, injuries to other vital organs, multiple fractures, burns, etc., following an act of homicide, suicide or an accident. Such cases, though designated as MLC at the time of hospital admission, have well documented clinical case records, even the course following trauma, and the cause of death. In all such cases, it is deemed unnecessary to conduct autopsy to find the cause of death, which is already well-established and documented by the treating doctor.

Reasons for carrying out such needless autopsies emanates from the reluctance and resistance at various levels. Despite of the provisions in

the law, unwillingness of the investigating police officer to waive off medicolegal autopsy in cases where cause and manner of death are well-established beyond any doubt, is believed to be the main reason for carrying out needless autopsies. Besides, the reluctance of the emergency medical officer or the treating doctor to provide an obvious cause of death, and instead registering the case as medicolegal leads to needless autopsies being carried out. Lack of adequate medicolegal knowledge and defensive attitude of the doctors, may be one of the reasons for increasing number of cases being labelled as medicolegal. Whatever being the reason, abide by the legalities in India, many such cases have to undergo autopsy examination for no valid reasons. The issue of needless autopsies has been deliberated in one form or another,⁶⁻⁸ and it was even raised in the state assembly of Maharashtra, India.⁹ Observations of a project undertaken to curtail the number of post-mortem examinations based on Section 174 CrPC with respect to burn injuries revealed that autopsy on burn cases did not add anything to what was already known based on the treatment records of the deceased.⁸ Consequently, all these efforts end up in wastage of manpower, resources, and exposing the HCWs to unnecessary risk of infections etc. In one of the studies, forensic experts across India expressed that the exercise of carrying out medico-legal autopsies in hospital deaths is often unnecessary.⁷ However, COVID-19 outbreak has led to the resurfacing of the long ignored issue of 'needless autopsies' in India.

COVID-19 confirmed deaths are considered as natural in India and abroad,¹⁰ that being so, the question of performing medicolegal autopsies do not arise. Henceforth, guidelines from the Government of India mention that no invasive autopsy technique should be adopted in confirmed COVID 19 cases.¹¹ While the in-hospital deaths under medical care due to COVID-19 are considered as non-medicolegal, the suspected COVID-19 death or latent status brought dead to hospital are often labelled by emergency doctors as medico-legal case (MLC); police are intimated and the body is sent for post-mortem examination to ascertain the cause of death. The same may sometimes happen in death of patients with ILIs (Influenza Like Illnesses)/SARI (Severe Acute Respiratory Illness). Considering the high transmission rate of the COVID-19, and community spread, there is likelihood that the victims of unnatural events (homicides, suicides and accidents) brought for

<https://doi.org/10.1016/j.jflm.2020.102028>

Received 19 June 2020; Received in revised form 3 July 2020; Accepted 13 July 2020

Available online 16 July 2020

1752-928X/© 2020 Elsevier Ltd and Faculty of Forensic and Legal Medicine. All rights reserved.

autopsy were suffering from COVID-19. In absence of mandatory pre-autopsy testing, confirmation of the COVID 19 status of all bodies brought for autopsy in itself is a distant reality. Autopsies are considered as aerosol generating high risk procedure, and lack of infrastructure, infection control measures, and personal protective equipment (PPE) make the matters even worse. Thus, in order to save the HCWs from acquiring the infection, deliberations are focusing on switching over to non-invasive or minimally invasive autopsy techniques or performing partial autopsy or even no autopsy at all.^{1,11–13} The most significant move to protect the HCWs, however, lies in avoiding the ‘needless’ autopsies, thereby minimizing the chances of unnecessary exposure to SARS-CoV-2. Besides, this is likely to reduce the existing load of autopsies on the resource limited medicolegal facilities¹⁴ during these challenging times. There can be no justification for risking the life of a healthcare worker for a non-justifiable cause of performing unnecessary autopsies.

It would not be incorrect to say that ‘needless autopsies’ are not only a futile exercise, and waste of manpower and resources, it exposes the HCWs to a number of infections. Besides, it also amounts to unnecessary mutilation of the body, and disregard for the dead. Though the issue of ‘needless autopsies’ has been deliberated in the past,^{6–9} never was it taken so seriously, as during the COVID-19 pandemic. Considering the facts of the matter, exemption of post-mortem examination in all cases with well-established cause and manner of death based on the hospital records, and investigating officer’s report on the circumstances of death, respectively, should be deemed justified.

Authors’ contribution

UP & TK contributed equally.

Declaration of competing interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers’ bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript that could inappropriately influence (bias) our work. Authors declare no conflict of interest.

Acknowledgements

None.

References

- Osborn M, Lucas S, Stewart R, et al. *Autopsy Practice Relating to Possible Cases of COVID-19 (2019- nCov, Novel Coronavirus from China 2019/2020) Secondary Autopsy Practice Relating to Possible Cases of COVID-19 (2019- nCov, Novel Coronavirus from China 2019/2020)*; 2020. Available <https://www.rcpath.org/uploads/assets/d5e28baf-5789-4b0f-acecfe370eee6223/fe8fa85a-f004-4a0c-81ee4b2b9cd12cbf/Briefing-on-COVID-19-autopsy-Feb-2020.pdf>.
- World Health Organization. *Director General’s Remarks at the Media Briefing on 2019-nCoV on 11 February 2020. Secondary Director General’s Remarks at the Media Briefing on 2019- nCoV on 11 February 2020*; 2020. Available <https://www.who.int/dg/sp/eeches/detail/who-director-general-s-remarks-at-the-media-briefing-on-2019-ncov-on-11-february-2020>.
- Health and Safety Executive Advisory Committee on Dangerous Pathogens. *The Approved list of biological agents. secondary the Approved list of biological agents*; 2020. Available from: www.hse.gov.uk/pubns/misc208.pdf.
- Guidelines on Rational Use of Personal Protective Equipment. EMR Division, Directorate General of Health Services, Ministry of Health & Family Welfare*. Government of India; 2020. Available from: <https://www.mohfw.gov.in/pdf/GuidelinesonrationaluseofPersonalProtectiveEquipment.pdf>.
- The Code of Criminal Procedure Act*. Legislative department. Government of India; 1973. Available from: <http://legislative.gov.in/actsofparliamentfromtheyear/code-criminal-procedure-act-1973>.
- Kanchan T, Krishan K, Atreya A, et al. India and the problem of “needless autopsies”. *Egyptian J Forensic Sci*. 2018;8:30. <https://doi.org/10.1186/s41935-018-0061-y>.
- D’Souza DH, Pant S, Menezes RG. Forensic medicine experts’ opinion on medicolegal autopsies in hospital deaths: a questionnaire survey. *Med Sci Law*. 2013;53(4): 203–207. <https://doi.org/10.1177/0025802412473597>.
- Chaphalkar KN, Khandekar I, Tirpude BH. A retrospective analysis of project undertaken to curtail the number of post-mortem examinations based on Section 174 CrPC with respect to burn injuries. *J Indian Acad Forensic Med*. 2020;42:13–16. <https://doi.org/10.5958/0974-0848.2020.00004.4>.
- Medico-legal News. *Question Raised in Maharashtra Assembly on Dr Khandekar’s Report on “Unnecessary Postmortems”*. India medical times; 2015. Available at: <http://www.indiamedicaltimes.com/2015/07/13/question-raised-in-maharashtra-assembly-on-dr-khandekars-report-on-unnecessary-postmortems/>.
- COVID-19 Deaths and Possible Exposure in the Workplace. Guidance No. 37. Chief Coroner’s Guidance, Advice and Law Sheets*; 2020. Courts and tribunals judiciary. United Kingdom. Available from: <https://www.judiciary.uk/wp-content/uploads/2020/04/Chief-Coroners-Guidance-No-37-28.04.20.pdf>.
- COVID-19: Guidelines on Dead Body Management. EMR Division, Directorate General of Health Services, Ministry of Health & Family Welfare*. Government of India; 2020. Available from: https://www.mohfw.gov.in/pdf/1584423700568_COVID19GuidelinesonDeadbodymanagement.pdf.
- Parekh UN. *Autopsy Practices in Suspected COVID-19 Cases: Scenario from India*. Forensic and Legal Medicine; 2020.
- Parekh U, Chariot P, Dang C, Pedersen AS, Druid H. A roadmap to the safe practice of Forensic Medicine in the COVID-19 pandemic. *Journal of Forensic and Legal Medicine*. 2020.
- Kanchan T, Saraf A, Misra S. COVID-19 outbreak: a testing time for medicolegal facilities in India. *J Indian Acad Forensic Med*. 2020;42:1–2. <https://doi.org/10.5958/0974-0848.2020.00001.9>.

Utsav Parekh*

Department of Forensic Medicine, Pramukhswami Medical College, Karamsad, Gujarat, India

Tanuj Kanchan

Department of Forensic Medicine, All India Institute of Medical Sciences, Jodhpur, India

E-mail address: tanujkanchan@yahoo.co.in.

* Corresponding author. Associate Professor, Department of Forensic Medicine & Toxicology, Pramukhswami Medical College, Karamsad, Anand, Gujarat, 388325, India.

E-mail addresses: utsavnp@charutarhealth.org, dr.utsav.parekh@gmail.com (U. Parekh).