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EDITORIAL

COVID-19 and forensic research avenues

Tanuj Kanchan
Department of Forensic Medicine and Toxicology, All India Institute of Medical Sciences, Jodhpur, Rajasthan, India.

The world is witnessing a global pandemic in form of Coronavirus disease (COVID-19) caused by SARS-CoV-2 virus. The exponential spread of COVID-19 has already resulted in enormous morbidity and mortality. In these trying times, healthcare providers and researchers have left no stone unturned to save human lives by providing prompt healthcare services and devising newer ways to combat the crisis.[1] In view of the considerable mortality, role of forensic practitioners has become paramount specially in view of the dignified management of the dead.

The proverb "*Necessity is the mother of invention*" aptly fits in the current scenario where researchers and scientists have come together to find ways to negate the effect of COVID-19. Be it the understanding of the pathophysiology of the disease, or the development of better infection control strategies and vaccines, etc. Forensic scientists, practitioners and researchers have a tremendous role to play in this regard. The core areas where the forensic medicine experts can contribute to counter the SARS-CoV-2 virus and its effects are shown in Figure 1.

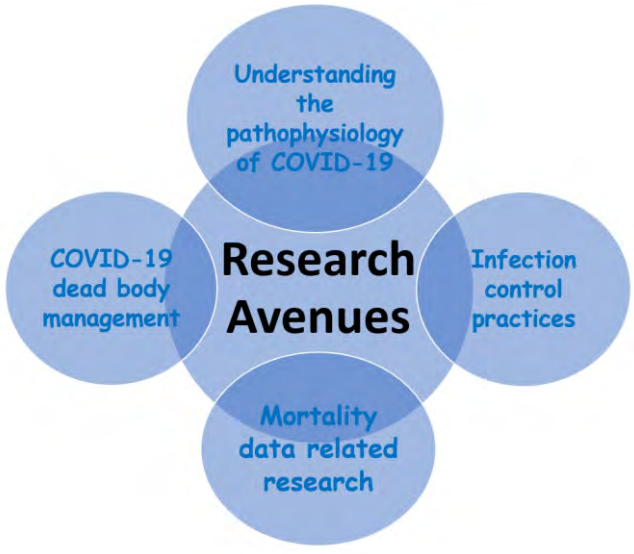

Figure 1: Four core areas of Forensic research during COVID-19 pandemic

Understanding the pathophysiology of COVID-19: Autopsy is gold standard to study the morphological features of COVID-19 infection, its pathophysiology and causes of death. Forensic autopsies have proven to be a useful source of providing information in this regard.[2] In view of the highly infectious nature of the virus, and limited autopsies being allowed in COVID-19 deaths, forensic practitioners have resorted to minimally invasive autopsies and postmortem imaging, and have shared the autopsy observations for better understanding of the pathophysiology of COVID-19.[3,4]

Infection control practices: The COVID-19 pandemic has seen researchers devise newer techniques and protective gears to safeguard the health care providers as well as the lay public. Mortuary set ups require a sophisticated approach in protecting its staff from the severe infection that they are likely to be exposed to during conduction of autopsies as well as while handling the COVID-19 dead bodies.[5,6] Thus, besides upgradation of mortuaries, and developing forensic radiology services,[7-9] research on infection control practices remain an important area to be explored.

COVID-19 dead body management: Various guidelines and SOPs were laid down and gradually revised for better management of COVID-19 dead bodies. This was possible only by virtue of sharing of the various practices being followed in different parts of the world and by amalgamating the best ones. Forensic practitioners have played an important role in ensuring the standardization of ongoing practices by publishing their experiences in this regard.[10,11]

Mortality data related research: Mortality data has always been a useful source of information when it comes to understanding the effect of any disease. During COVID-19, mortality data can be a useful source of epidemiological information. Furthermore, the mortality data can help establish association of COVID-19 and co-morbidities, and even the effect and safety of vaccines by analyzing the post-vaccination mortalities. Thus, this becomes another vital research avenue for the forensic practitioners.

It is amply clear that Forensic research has a key role in developing a better understanding of the pathophysiology of COVID-19 which is vital in developing the effective treatment strategies and vaccines. Experiences shared by the forensic professionals across the globe can prove to be significant in upgradation of mortuaries, gradual shift to virtopsy/ minimally invasive autopsies, and recommendations for infection control and safety measures. Mortality data with the forensic experts can also provide useful information on role and weight of comorbidities to the mechanism of death in COVID-19. Its high time that Forensic practitioners venture into collaborative research and contribute in combating the menace of SARS-CoV-2.

Corresponding Author
Tanuj Kanchan (Editor-in-chief; Journal of Indian Academy of Forensic Medicine)
Email: tanujkanchan@yahoo.co.in, kanchant@aiimsjodhpur.edu.in
Mobile: +91 9448252394

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