

COVID-19 Pandemic in Zambia: Forensic Pathology's Role

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Abstract

Even though forensic pathology is less visible on the front lines of public health, it is crucial to protecting it by looking into and detecting uncommon infectious disease deaths, as those brought on by COVID-19. Given that forensic pathology is in charge of analyzing sudden, mysterious, or unattended deaths, a doctor, its involvement in disease and mortality surveillance gives information that is helpful to clinicians and epidemiologists. The information includes demographic information, disease severity, and death causes. Using information from forensic pathology can help us better understand the Covid-19 disease and guide public health policies. This essay tries to outline the function of forensic pathology in Zambia during the COVID-19 pandemic. The University Teaching Hospital's forensic pathology service created a screening method for potential COVID-19 infections in brought-in-dead cases undergoing forensic autopsies in response to the confirmation of the first cases of COVID-19 in Zambia. For COVID-19, the screening patients were examined. Notably, the BID that were tested accounts for the majority of COVID-19 deaths reported in Zambia. In order to determine the cause of death and chronicle the severity of the illness during the COVID-19 pandemic, autopsy were performed using forensic pathology methods, adding to the body of knowledge in public health and infectious disease science. In summary, the forensic pathology department has helped with the treatment of COVID-19-infected patients. Through disease surveillance of brought-in-dead cases and mortality analysis, it has also benefited public health.

Keywords: Drug-facilitated sexual assault (DFSA) • Sexual violence • Date-rape drugs • Young women

Introduction

China's Wuhan announced the first COVID-19 case on December 31, 2019. Since then, the illness has proliferated, resulting in a global epidemic. In March 2020, the World Health Organization (WHO) proclaimed COVID-19 a worldwide epidemic. Zambia initially reported a case in March 2020; since then, there have been 13,539 cases reported, with 312 deaths as of September 13th, 2020.

Although forensic pathology is less apparent on the front lines of public health, it is crucial to protecting public health by identifying and analyzing uncommon infectious disease deaths, as those brought on by COVID-19. Given that forensic pathology investigates unexpected, unexplained, or unattended deaths, it contributes information to mortality and disease surveillance that is helpful to medical professionals and public health experts. Accurate demographic information, disease severity, and death reasons are all provided by this data, which is helpful in guiding public health policy [1].

By using the autopsy's results to provide a wealth of knowledge about diseases like COVID-19, forensic pathology uses the autopsy as a tool to improve the body of knowledge about diseases. This essay tries to outline the function of forensic pathology in Zambia during the COVID-19 pandemic.

Discussion

As nothing was known about COVID-19 at the time the first cases were verified in Zambia, the forensic pathology service created a screening method to identify patients that were suspicious for the infection. A questionnaire was given to the next of kin of Brought-In-Dead (BID) cases at the University Teaching Hospital who were undergoing forensic autopsy as the screening technique (UTH) [2]. Before death, details of flu-like symptoms were discovered. To classify BIDs for COVID-19 infection, a history of symptoms including headache, cough, sore throat, fever, shortness of breath or difficulty breathing, nausea, vomiting, diarrhea, and chills was obtained. Other factors included travel to high-risk areas, contact with known COVID-19 infected individuals, and occupation. Deaths with a high index of suspicion, low index of suspicion, no index of suspicion, and instances lacking information on the circumstances of the death were classified as BID cases. People who passed away while exhibiting "flu-like symptoms," symptoms typical of an acute infectious illness, fell into the category of deaths with a high index of suspicion. There was insufficient evidence to rule out COVID-19 infection as the cause of this sickness. Low index of suspicion for COVID-19 infection was given to decedents who had "flu-like symptoms" but had substantial co-morbid diseases that most likely caused their deaths. Decedents with low or no index of suspicion had no history of travel to high-risk regions in Zambia or overseas and no signs of the flu at the time of death. BID cases lacking details on the circumstances underlying the death made up the final category. Then, swabs were taken from deaths in the first and second groups to be tested for COVID-19. abstained from the COVID-19 test [3].

Through the Zambia National Public Health Institute (ZNPHI) and the Infectious Disease Unit, the Ministry of Health adopted the swabbing of BIDs (IDU). The initial swabbing of BIDs at UTH revealed many positive COVID-19 cases, therefore this was scaled-up through the nationwide swabbing of all the BIDs by the mortality and illness surveillance team that co-opted the forensic pathology team. The job of creating instructional materials and instructing mortuary staff on how to swab and maintain data for COVID-19 surveillance purposes in all BIDs was given to the forensic pathologists. The staff members of the mortuary were instructed to check for "flu-like symptoms" and record the information on a laboratory form that was submitted with the testing sample. Notably, the BID cases that were swabbed as a result of the screening account for the majority of the COVID-19 deaths reported in Zambia. This illustrates the importance of BID cases in disease surveillance and mortality as they relate to COVID-19 infection. The national COVID-19 pandemic response therefore requires mortality surveillance and illness. The forensic pathology service opened its doors during the COVID-19 pandemic to enable thorough autopsies to be performed in COVID-19 suspected and confirmed cases in the BIDs and hospital cases. This was done to provide reliable information to medical professionals and public health experts so they could better handle the pandemic. The cause of death and the severity of the disease were determined by autopsies utilizing forensic pathology concepts. Consequently, forensic pathology [4].

Instead of concentrating solely on the criminal justice system, practice was altered to accommodate the COVID-19 pandemic. Working with the IDU at the UTH, forensic pathologists and IDU doctors maintained a continual feedback loop on clinical and autopsy findings. An

autopsy report was created after discussion of the autopsy results. This gave doctors information about the severity of the illness and made it possible to create a clinicopathological correlation to manage patients more effectively. We observe that thorough autopsy allow for better assessments of the amount of infection, which provides a wealth of information about mortality caused by COVID-19 infections than PCR testing alone can detect [4]. Additionally, autopsy reports described COVID-19 deaths and noted any comorbidities that might have gone unnoticed clinically or from the circumstances of the death. Advanced HIV illness, disseminated Kaposi's sarcoma, congestive heart failure, disseminated TB, and severe atherosclerotic heart disease were a few of the comorbidities [5]. Three cases of deceased people in their twenties who died with COVID-19 infection without comorbidities are also noteworthy. In our cases with COVID-19, thrombosis in several organs was a fairly frequent observation. The evidence supporting the need for physicians to prescribe anticoagulants in the treatment of COVID-19 patients has been enhanced by this study from a local perspective. The COVID19 pandemic has been managed in part thanks to forensic pathology's role in illness surveillance and mortality analysis. By collaborating with IDU, forensic pathology had the chance to provide data to the case management of COVID-19 patients [6].

Given the lack of a clearly defined methodology, it appears likely that this conclusion's unreliability is a true finding. To prove the existence and magnitude of this variability, carefully planned experiments are needed. Even putting away all of these worries, don't these tests at least imply that fingerprint examiners have very low rates of incorrect identification?

Our answer is a resounding NO. None of these 13 investigations, and especially not the low rates given in their findings, can support an estimate of the rate of incorrect identification in fingerprint comparison casework [7].

No experiment was intended to be a replication of an earlier one, and none can be justified as even being a partial replication, despite the fact that the experiments were published over a 17-year period. The high degree of heterogeneity in the data implies that we still don't fully understand how accurate and reliable fingerprints are. Before useful research can be done to document the accuracy of fingerprint comparisons, three of the issues raised throughout our critiques must be addressed: developing a validated measure of latent print difficulty, exemplar print difficulty, and the difficulty of comparing prints to prints; being able to match test item difficulty to the range of casework difficulty; and providing accuracy and reliability evidence of the method (such as ACE) used by the researcher. Further studies of the kind presented here cannot yield estimates of either casework accuracy or the validity of the ACE technique until solutions to these issues are identified and validated [8].

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We thank the patient for allowing the case description.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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