forensic sciences

Systematic Review

Postmortem Gone Astray—A Systematic Review and Meta-Analysis

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Abstract: Premortem clinical diagnoses and postmortem autopsy findings do not match historically. These clinicopathological discrepancies are expected to be higher during the coronavirus disease 2019 (COVID-19) pandemic due to increased pressure on healthcare. At the same time, autopsies and clinicopathological discrepancies accurately display the quality of the healthcare system. To assess that, we examined the relevant works of literature according to the PRISMA-based protocol. As a discrepancy rate change-related antemortem scrutiny of medical care in the hospital, we also checked whether studies with patients from the intensive care unit (ICU) differed in discrepancies significantly. We found similar overall risk differences in "pre-COVID" and "during the pandemic" groups of studies. Based on this, we concluded that healthcare quality did not drop significantly during the pandemic. Be that as it may, the pandemic exposed some shortcomings in mortem healthcare regarding consensus to the autopsy, organ retention, burial, and the postponed burial or the digitalization of postmortem healthcare. All of these issues should be addressed in the future.

Keywords: autopsy; discrepancy; postmortem healthcare

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1. Introduction

Since the first medicolegal autopsies took place in 13th century Italy, they have always been accompanied by a specific rate of cases where autopsy reveals significant disease unknown to the clinicians before death—clinicopathological discrepancies [1]. Autopsy remains the gold standard as the ultimate diagnostic procedure [2,3]. It is a standard of postmortem healthcare and an important tool to advance medical knowledge [3]. Most recently, the coronavirus disease 2019 (COVID-19) created a significant healthcare challenge. The clinical diagnoses and postmortem findings are often evaluated and compared using the Goldman criteria. This serves as a system for classifying errors in autopsy findings (Table 1). It should be pointed out here that there is a difference between diagnostic error and diagnostic discrepancy. Diagnostic error is a condition that could harm the patient, with no acceptable grounds and no scientific data for defense [4].

Table 1. Goldman's system of clinicopathological discrepancies.

major discrepancies	class I	discrepancies in primary diagnoses with relation to cause of death—detection would have led to changes in management and therapy.
	class II	discrepancies in major diagnoses about the cause of death—detection and adjusted therapy (management changes) could have prolonged survival or cured the patient.
minor discrepancies	class III	Symptoms should have been treated or would have eventually affected the prognosis.
	class IV	Non-diagnosable (occult) diseases with possible genetic or epidemiological importance.
	class V	non-classifiable cases.

This review aimed to show that discrepancies between clinical and postmortem examination diagnoses persist despite medical progress and do not increase in times of high workload pressure, such as the COVID-19 pandemic.

Trends in Discrepancies between Clinical and Postmortem Examination Diagnoses

In one out of three autopsies, the information revealed in the autopsy may differ significantly from the premortem clinical impression. Premortem clinical diagnoses and postmortem findings do not match throughout history, constantly underscoring the need for enhanced surveillance, monitoring, and treatment. In the UK in 2003, a Command Paper by "Luce's group" was presented to Parliament establishing the lack of evidence about the utility and justification for coroners' autopsies in 18% of cases [5]. That was the proportion of coroners' autopsies where findings did not support the clinical course. Clinical history was given in the autopsy report in 76% of cases. Tissue samples for histopathology were retained in only 13% of the coronial autopsy cases; this increased to 19–55% in the subsequent reports [6,7]. For instance, from the initial 50% of autopsies findings that were unsuspected before death and the 18% that did not support the clinical course [6,8], in 2017, significant findings that had not been clinically detected were found in 19.5% [9].

Discrepancies have decreased significantly over time, but their rate was still high in 2010 [10] and in the "COVID era". In those circumstances, autopsies crystallized as an excellent quality marker and a valuable educational tool [5–7]. Discrepancy refers to a reasonable difference or a divergence of opinion about a finding or diagnosis [8].

The trend line for the plot in Figure 1 should help visualize a tendency of the constant presence of clinicopathological discrepancies. Nevertheless, the results of most analyses nowadays indicate that discrepancies remain at a 10% rate, even in the face of advances in diagnostic techniques. Most likely, the decreasing number of autopsies (and the discrepancies, subsequently) is due to better pre-mortem healthcare. Most certainly, it also goes at the expense of the fact that death is often determined as part of a long-standing malignant disease [11,12].

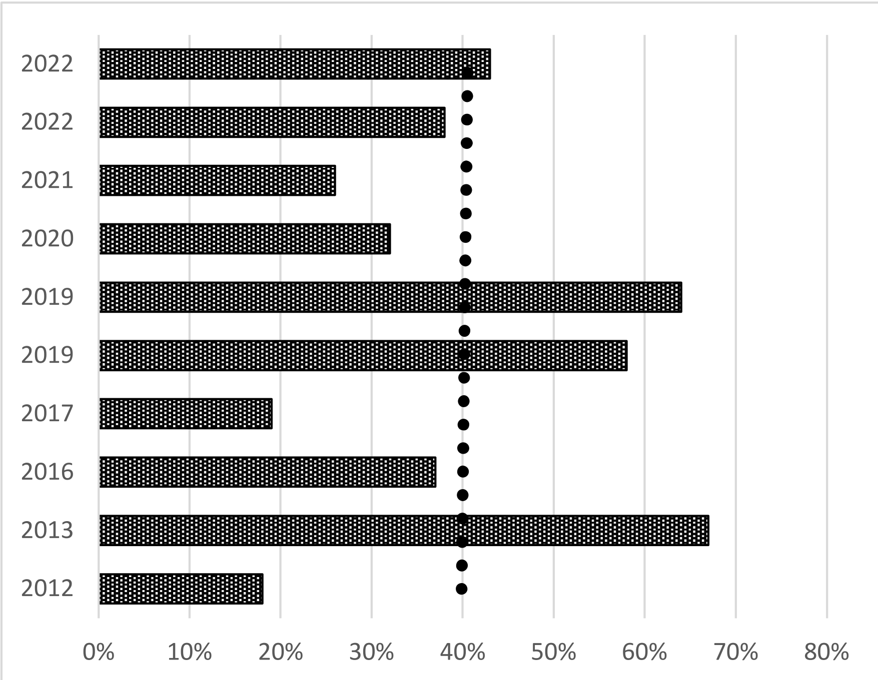

Figure 1. Proportion of clinicopathological discrepancies before and during the coronavirus disease 2019 (COVID-19) pandemic according to studies by Tejerina et al., 2012; Khawaja et al., 2013; Mazeikiene et al., 2016; Marshall et al., 2017; Ordi et al., 2019; Mitrović et al., 2019; Lanjewar et al., 2020; Kurz et al., 2021; Giugni et al., 2022; Hudák et al., 2022 [2,9,13–20].

With that in mind, we set out this research to find out how much (if it did) COVID-19 influenced clinicopathological discrepancies and, thus, healthcare quality. Aside from that, some new approaches to the earliest paradigm of autopsy will be presented, considering the post-COVID era and some modern attainments.

2. Materials and Methods

Literature databases PubMed, Web of Science and Scopus were searched for "discrepancy" and "autopsy", in two separate searches. The first search covered all published work before 11 March 2020 (when the World Health Organization (WHO) declared a COVID-19 pandemic). The other search (see Figure 2) covered all published studies between 11 March 2020, and 5 May 2023, when WHO ended the global emergency status for COVID-19. We removed duplicates, single-case reports, and non-English articles in both searches. We also eliminated articles on intensive care unit (ICU) patients only, as ICUs are known for meticulously scrutinizing their patients [21].

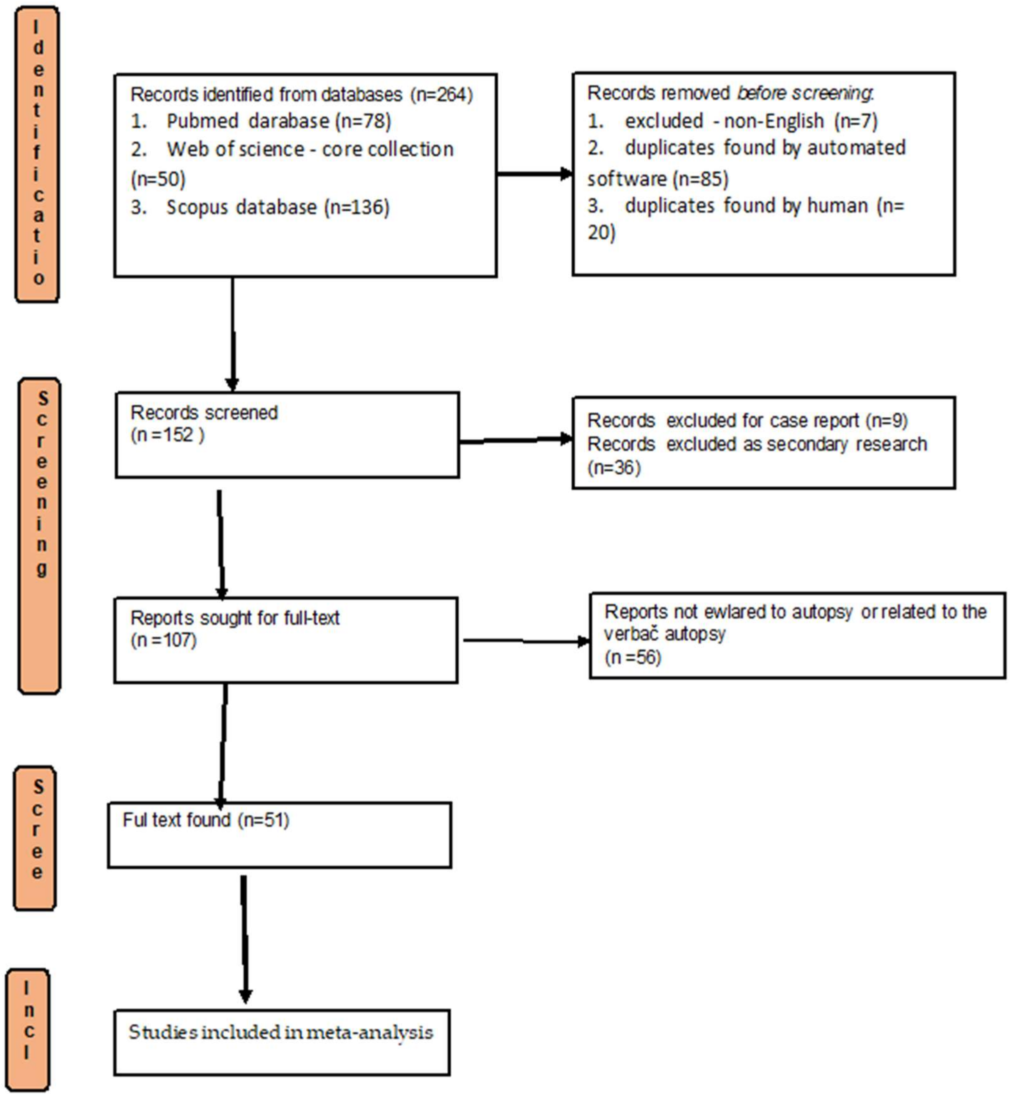

Figure 2. PRISMA diagram of the literature databases PubMed, Web of Science and Scopus were searched for "discrepancy" and "autopsy".

Methods of Meta-Analysis

Data extracted from the reviewed literature will be analyzed as dichotomous outcomes, applying the random-effects method.

3. Results

All the relevant studies from our literature review were further screened and their content was meticulously evaluated (Table 2).

Table 2. Characteristics of studies with full text.

Number of Studies	Study	Population/Participants		Goldman ≥ III—Control	Goldman I and II—Outcome
10	Staub Rodrigues et al. [22]	31	Hospital/coroner—non-specific	18	**13**
	Schmidt et al. [23]	25		18	**7**
	Rusu et al. [24]	437		389	**48**
	Raghuram et al. [25]	118		106	**12**
	Lanjewar, et al. [16]	13,024		8919	**4105**
	Kurz et al. [2]	1112		822	**290**
	Kuruc et al. [26]	510		384	**126**
	Joubert et al. [27]	288		183	**105**
	Hudák et al. [18]	534		307	**227**
	Giugni et al. [17]	104		65	**39**

3.1. Meta-Analysis of Findings

Overall heterogeneity for all studies during the pandemic was: $Tau^2 = 0.04$; $Chi^2 = 586.16$, df = 9 ($p < 0.00001$); $I^2 = 98\%$ and test for overall effect: Z = 6.79 ($p < 0.00001$). Comparing the heterogeneity of studies in the "pre-COVID" and the time during the COVID-19, in both percids this was very high ($tau^2 = 0.04$; $\chi^2 = 1207.81$, df = 19 ($p < 0.00001$); $I^2 = 98\%$) with overall effect Z = 7.95 ($p < 0.00001$). Test for subgroup differences—$Chi^2 = 1.51$, df = 1 ($p = 0.22$), $I^2 = 33.8\%$. As per subgroups, the "pre-COVID" subgroup exhibited heterogeneity of $tau^2 = 0.07$; $\chi^2 = 624.64$, df = 9 ($p < 0.00001$); $I^2 = 99\%$; compared to $tau^2 = 0.04$; $\chi^2 = 586.16$, df = 9 ($p < 0.00001$); $I^2 = 98\%$ in a "during the pandemic" subgroup. On the level of an effect, it is Z = 3.41 ($p = 0.0006$) in the "pre-COVID" subgroup vs. Z = 6.79 ($p < 0.00001$) in the a "during the pandemic" subgroup (see Figure 3).

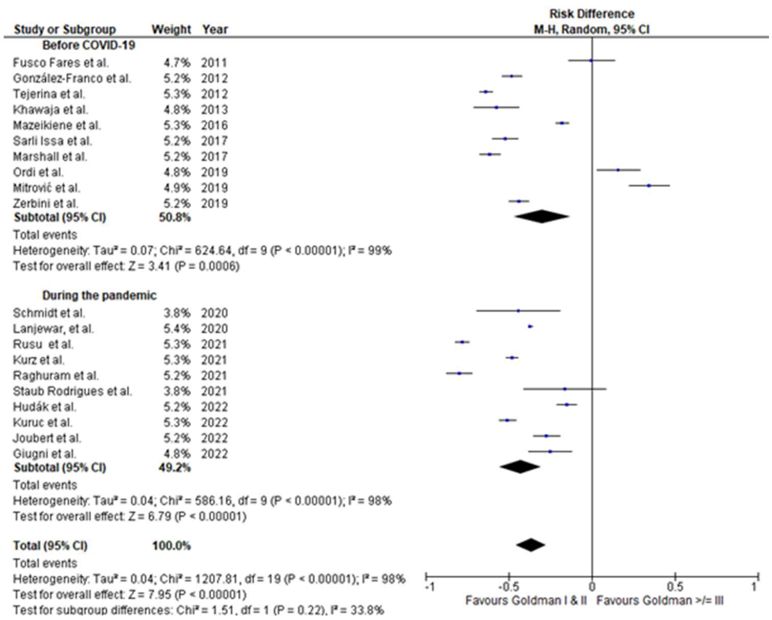

Figure 3. Forest plot of comparison of clinicopathological discrepancies before and during the pandemic; plot for risk differences with random effect sizes (the figure was made by Review Manager (RevMan) [Computer program]. Version 5.4. The Cochrane Collaboration, 2020.).

3.2. Scrutiny of Intensive Care Unit as an Exclusion Criterion

End-of-life care in the ICU and subsequent postmortem healthcare (the Autopsy) have been made challenging to quantify by poor documentation in the medical record [28,29]. Patients who stay longer are more likely to develop and, subsequently, have a major error discovered postmortem [30]. After a short hospital stay, it is reasonable to expect surprising findings at the Autopsy [24]. Discrepancies that follow ICU stay are interesting as time spent in the ICU before death means great scrutiny. It seems that a longer ICU stay may increase the chance of developing an infectious process, only to be uncovered at postmortem examination [30,31].

Unfortunately, not even being critically ill and under the scrutiny that follows ICU makes patients proof of common diagnostic errors. However, Pastores et al. in 2007 reported that 26% of patients had major diagnoses missed. Regarding discrepancies in premortem clinical diagnoses and postmortem autopsy findings in critically ill, class I discrepancies were due to opportunistic infections (67%) and cardiac complications (33%). In contrast, class II discrepancies were due to cardiopulmonary complications (70%) and opportunistic infections (30%) [32]. To avoid this "scrutiny bias", we randomly selected 5 ICU patients (Figure 1) only studies that turned out to be pretty heterogenous ($Tau^2 = 0.02$; $Chi^2 = 27.47$, df = 4 ($p < 0.0001$); $I^2 = 85\%$, for overall effect Z = 7.62 ($p < 0.00001$) (see Figure 4).

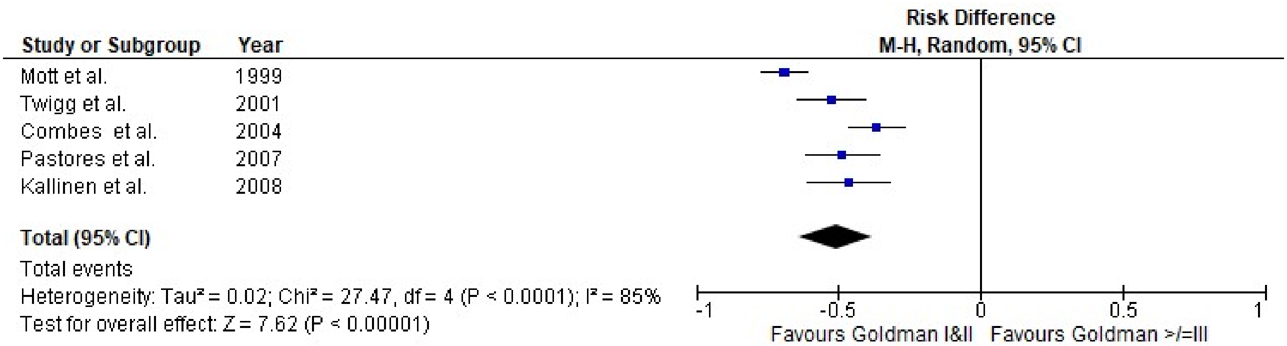

Figure 4. Discrepancies among intensive care unit (ICU) patients in five randomly selected studies; forest plot for risk differences with random effect sizes (the figure was made by the Review Manager (RevMan) [Computer program]. Version 5.4. The Cochrane Collaboration, 2020).

4. Discussion

The relatively new concept of Society 5.0 is like a guide to social development and can profoundly impact all points of society. It emphasizes the potential of the individual–technology relationship [33]. This leap forward furthers the upgrade of the quality of life of all people in a sustainable world [34]. Machine learning (ML) and artificial intelligence (AI) approaches are indispensable components of this concept and have revolutionized multiple disciplines; therefore, they might revolutionize even postmortem healthcare [35,36]. AI has the potential to outperform some of the forensic pathologists. If nothing, it has the potential to automate and standardize specific processes soon [37]. Logically, a human specialist is still needed to verify the assessment [38,39]. By all accounts, this will remain so, at least for the near future [40,41]. Machines should be trained and validated by a human specialist, in scenarios that cover diverse and representative clinical cases, as seen usually in everyday practice [42].

There are certain dissimilarities between pathologists and other clinicians, and for that reason, different specialties adopt AI at different paces. Sometimes, the difference is in naming things differently. For example, a pathologist will not name respiratory insufficiency as such. Why is that? They cannot say that the patient does not breathe well—they examine a dead body, not a living patient. The pathologist could recognize reddish homogeneous content in the alveoli as the pulmonary edema and name it accordingly. Clinicians often disagree with the pathologist due to a simple misunderstanding of the pathohistological methodology. But for the pathologist, workflow related to death certification is arranged by the rulebook on filling out the death certificate, which in turn is established as part of the law on health care (a specific example in Croatia [43,44]). In general, this process lacks consistency. The lack of consistency is a major problem in forensic medicine, both from a scientific and a criminal justice point of view [45] (Figure 5).

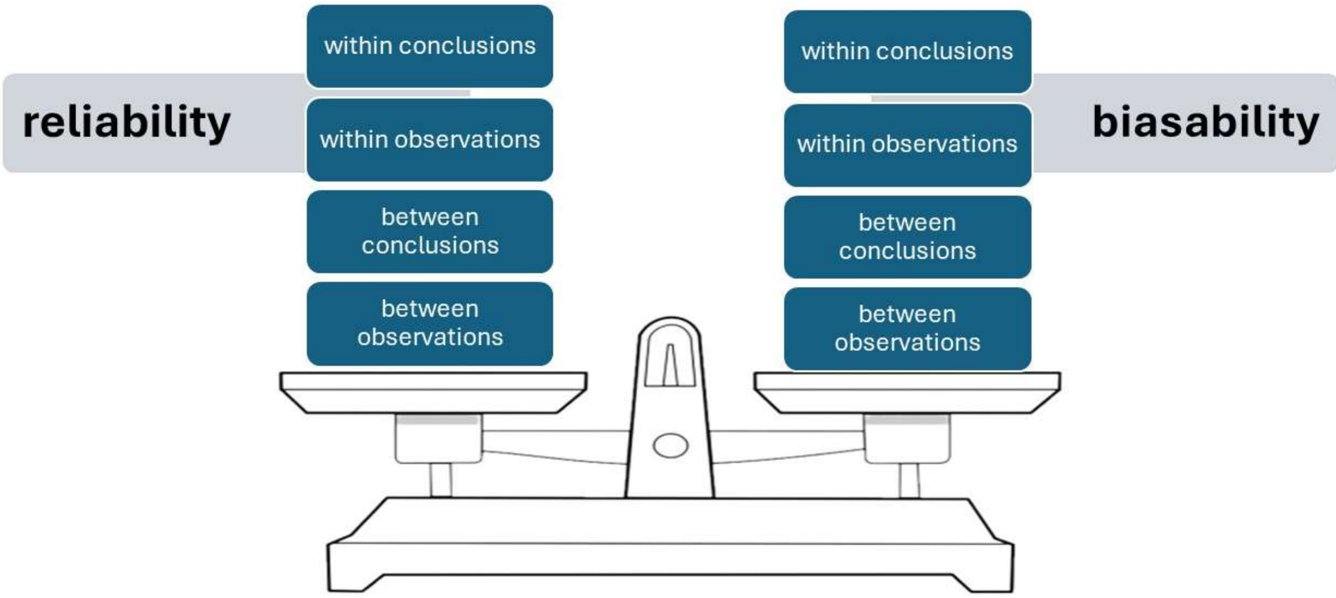

Figure 5. Balance of the factors/sources of inconsistency lies in the imbalance between reliability and biasability.

Pathologists take tissue/histological samples during autopsies, formulate the main disease and the immediate cause of death in their reports, and submit data to the central statistical institution. In the setting of the forensic laboratory, there is a universal need for space since there is a legal requirement to store several thousands of histopathology slices as images and physical archives [46,47]. In this context, demands for data storage make artificial neural networks (ANNs) and AI supreme acquisitions, where an AI augmentation of the workflow puts forward the most elegant method of dodging space limitations [48–51]. Beyond the "dodging the space limitations" deep learning AI models are currently used in analytical procedures as an assessment tool to help with efficiency, consistency, and decision-making [52–54]. Potential augmentation would result in an AI system that can handle large numbers of toxicological reports without the potential disturbances commonly experienced by professionals in the field (space or time limitations, for instance) [55,56]. Such a system would drastically alleviate the daily work's heavy clinical burden and be a generalizable tool for other professions with similar background knowledge.

On the other hand, progress in computing programming has ignited diligence for learning the AI-constructed machines built for the high-dimensional output of data [57]. A model for the near future comprises the forensic medicine specialist skilled in toxicology enhanced by a real-time artificial intelligence system's second review [58,59].

4.1. Apophenic vs. Evidence-Based Forensic Medicine

Perhaps the persistence of discrepancy rates throughout history has resulted in the practice of forensic pathologists having inappropriate confidence in experience and individual customary practice [60–62]. Such a feature might be a potential source of error in formulating conclusions [4]. Case reports, found so dear in forensic medicine, are detailed descriptions of the circumstances, physical presentations, medical features, treatments, and unique features of an individual case that advance medical and forensic sciences [63,64]. However, they cannot wholly substitute evidence-based practice—instead, they have immense educational value. On the other hand, forensic pathology is a major discipline of forensic medicine. It provides evidence to determine the effects of injury, toxic substances, and disease, focusing on criminal law. Since reports of that practice vary considerably in quality between individuals and between centers, the fact that no internationally accepted recommendations exist certainly does not provide for it [61].

Relying on experience and customary practice will make room for the tendency to perceive meaningful connections between unrelated things and recognize patterns that do not meaningfully exist—apophenia [65,66]. Although the word has a negative connotation, the reliability of expert opinions presumably originates in evidence-based practice. The methodology by which forensic pathologists formulate their views and recommendations on reporting and communicating is not always transparent. This reflects the differences in the scope and role of forensic medical services and local settings. The methodology of report creation by pathologists in a hospital environment should also be considered [44,67].

In hospitals, it is illogical that material, time, and human resources are spent, relatively speaking, on the dead when they can be used for the living. As a result, autopsies are often not performed when the cause of death is clear and when the clinician, pathologist, family, and director of the institution agree that the autopsy is not necessary. It is important to emphasize that this does not result in a loss of quality but a loss of accuracy and completeness of the statistics. That is why statistical data on the cause of death are often based on clinical knowledge, not on the autopsy report, and it is not possible to speak about the discrepancy between the clinical opinion and the autopsy report. The statistics are also affected by the number of patients who do not die in hospitals but who die at home. In some European countries, there is no coroner's office linked to the police department, and often, even forensic pathology departments are not related to the police departments. The lack of medical staff is also seen in these countries in this field, and the coroner who fills out the death certificate needs not to be a doctor but a specially trained nurse or even not even a nurse. On the one hand, the teaching facilities are constantly confronted with the needs of students; on the other hand, there are pathology or forensic medicine departments with available human material from postmortems. In between are many legal challenges related to the substantial commodity value of bodily material [68–70]. Teaching, laboratory quality control, and research rely on human tissue [71]. So, the data from 2006 comes as a shock. In 2006, 65% of autopsy reports in the UK did not indicate whether histology samples were obtained, even though these were formally retained in no more than 13% of the cases of coronial autopsy [6,72–74]. With time, this number has grown to 19–55% due to implementing a "new" consent process [75]. Partly, persistency is a consequence of the COVID-19 crisis, but with the origin as long ago as in the margins of organ retention controversy (from Bristol's first organ scandal [76,77] in 1998, "the Alder Hey organs scandal" in the UK, or a case of New Zealand's hospital) [78,79]. Reacting to the Alder Hey organs scandal, another Act of the Parliament of Great Britain was brought about in 2004, known by its colloquial name "The Human Tissue Act 2004" [80–82]. In that same vein, the British Anatomy Act of 1977 was modified for the territory of Australia into The Human Tissue and Anatomy Legislation Amendment Act in 2003 [83,84]. Rigorously, this regulation permits the retention of human tissue postmortem. That refers to cases of non-coronial autopsies [85], and only if an adult deceased had given consent to such use [86], unambiguously and without revocation, though [87,88]. Postmortem management of organs (or body parts) has needed regulation throughout the past, so to sustain the integrity of this review, it will be started with "the Murder Act 1751", an Act of the Parliament of Great Britain that defines that only the corpses of executed murderers could be used for dissection [89,90]. This remained so for over eighty years, when another Act of Parliament was passed, permitting medical students and teachers in general, but particularly in anatomy, to dissect donated bodies.

Removal, retention, and disposal of human tissue that was unapproved during the period 1988 to 1990 caused a profound crisis in organ handling postmortem [91,92]. This crisis could have had implications for the care of any patient [93], but publicity was especially stoked by the fact that many of these cases were children's organs [69]. Over 2000 containers with children's body parts were revealed at the hospital in Liverpool [81,94]. As a result of organ shortage in medical education [95,96], there have been many discussions in past years worldwide. Explaining tissue from the living patients is covered by practical laws from a healthcare domain, and always requires consent. In the context of postmortem healthcare, it is different; it is almost grotesque to insist on informed consent to perform an autopsy [97,98]. Generally, next of kin are not well informed when consenting. Consent is repeatedly required to remove tissue from the body of a deceased person and store or use it for research, including when the removal for this purpose has taken place during a coroner's postmortem examination. Nowadays, the worldwide trend in handling human organs is consent. Not only does it help to encourage trust and respect between researchers and grieving families, but it is legally required to store and use 'relevant material from the living or deceased for a 'scheduled purpose' such as research. It is indeed a global standard. In Zambian children, the rate of consenting autopsy was merely 25% [99]; on the other hand, a Jamaican study reports a consent rate of 65% [100].

In spite of the consent for an autopsy, next of kin's permission for the use of organs/tissue for scientific research and education seems to exhibit a persistent falling rate [11]. Removal of the guidelines from the European Parliament and Council advised that postmortem consent forms should include a section explicitly addressing the issue of organ retention [101,102]. Hospital and mortuary staff should be educated on brain and spinal cord donation programs, with a prerogative of availability of such. These are cases where consent is usually specific to the project itself; however, in more vague cases, more generic consent includes storage and future use. If seeking generic consent, researchers should prudently weigh how much information to provide to potential participants of a certain study so that they can easily understand the significance of their contribution's scope and its future use. Briefly, researchers should foresee how samples might be used in the future. Fortunately, rigorous standards on required consent do not apply to education or training.

So, as there are neither independent guidelines nor a federal law on postmortem examination practices, the authority to conduct an autopsy comes from state law. Moreover, it rests totally in the authority of a coroner or medical examiner to decide whether a postmortem will be requested. However, only a few states' statutes address the issue of retention of remains verbatim.

However, by no means can the answer to the organ retention question be considered vague or incomplete. This issue is regulated under the common law, which originates from seventeenth-century England and is summarized in the Restatements of the Law Series for Court Use. However, due to the absence of any federal law and national guidelines on postmortem examination practices, cases of unconsented "collection/retention of organs" come to the public occasionally. So, the case law is ambiguous and outdated [103].

4.2. The Impact of COVID-19

At the end of 2019, few acute respiratory syndrome cases were reported in Wuhan City, Hubei province, China, which marked the beginning of more than three years of a worldwide catastrophe. After asymptomatic transmission, the disease sometimes escalates up to the risk of death (in the case of co-morbidities). As no effective control options or widespread diagnostic testing were available, social distancing and even generalized lockdowns were introduced [104,105].

As overall mortality increased worldwide and disease presented an excess burden to healthcare, our study aims to compare the rate of clinicopathological discrepancies of cases referred for autopsy during the period of the COVID-19 pandemic versus the cases referred before the pandemic.

4.3. Documentation and Professional Approach

Apprehension and heightened anxiety attributed to waiting for reports and documents require some guidelines and protocol. Specifically, to maintain the efficiency of the organ or entire body donation process, there must be asserted communication among all the participants. With fewer autopsies performed worldwide in recent times and with a reduced influx of tissue for research and education, delayed and incomplete autopsy reports undercut trust and respect between clinicians and families, as both do not receive information in a timely fashion [106,107]. As a bare minimum effort to downturn this, standardized templates must be available. They should be equipped with individualized tracking sheets and other improvements on the autopsy reporting system [108,109]. Helpful improvements in postmortem healthcare may be something as simple as using loose-leaf binders for each case with outside flowsheets and interior pockets.

Together with improvements in the consent process, this should prepare families to consent to retain organs and the possibility of their return. Such an approach is an indicator of the effective postmortem healthcare management process. Subsequently, this is an indicator of improvements in the autopsy reporting. Eventually, families benefit from this "system's honesty", as their trust needs to be constantly supported in the first place. Furthermore, this would provide teaching aids for the anatomy curriculum.

Simply put, enhancing willingness to donate (to consent) and appreciate more excellent professionalism would help establish a set of intermediate deadlines for each case, corresponding to the various stages in the reporting process. It seems practical to advocate flexible deadlines to accommodate the work schedules of involved staff and the office. It is widely suggested that we establish a more professional outlook of an organized environment. The professional notion of the institution (not limited to a pathology unit) also adds to the willingness to donate organs.

Other factors that influence donation willingness relevant for transplantable organs (such as mistrust in the healthcare system, perceptions about organ donation, respect for the corpse, religious beliefs, and family factors) seldom apply to materials retained at the autopsy. In these cases, generally, no consenting process was acknowledged whatsoever. Aside from the conceptualized, however, not famous body (Department of Anatomy) and tissue (Department of General Pathology) donation/retention programs at the University of Rijeka Faculty of Medicine, Croatia lacks well-established programs of this kind. During the autopsy, as a part of the checklist, it should be recognized that organ retention might be necessary. When it is required, a form, in that sense, is sent to the coroner, who asks for written confirmation from the family regarding disposition by either cremation or return. The process of informing family members of the autopsy procedure and how it would affect an open casket viewing and the process of afterward tissue sharing, in fact, aims to obtain approved/signed informed-consent forms (in person, with a witness present; whenever possible), before or after the patient's death. This approach boosted consent rates over time, and a case study by DeWire et al. confirms so. Namely, from 2013 to 2018, the number of autopsies performed upon such an informative approach increased substantially.

4.4. Postponed Burial and Retention of Organs

The autopsy rate as a percentage of all deaths has declined worldwide, and even though we lack national indicators, there is a reason to believe that this negative trend might be one of the reasons for organ shortage on our end [88,95,110,111]. Despite the popular understanding of autopsy as a "not so central" procedure in modern clinical practice [112], there are situations where, still, after an autopsy, pathologists retain tissue for a few days to examine its histopathological features in more detail. In some jurisdictions, this may even lead to an inevitable delay in burial [106,107,113]. This was studied during inquiries in Great Britain, and the number of days that lapsed between the date the autopsy was recorded and that the autopsy report was issued was taken into account. This time varied considering whether histology samples were taken, and the median number of 4 days (range 0–255) was found to have lapsed in cases that did and [15 (0–255)] did not [2 (0–144)] take histology samples. In situations where all diagnoses (thus, the cause of death) are evident from the gross examination, the pathologist's report can be rapidly transmitted to the coroner. If the autopsy report is delayed, it can significantly slow down the medicolegal process, and cause distress to families who would like to know the diagnosis and see a fuller account than just the bare cause of death. On the other hand, pathologists retain tissue from an autopsy to thoroughly grossly examine an organ once it is fixed or preserved with chemical treatment. Tissue retention of tissue/organs in an autopsy has probably been the most controversial of all issues around autopsy, especially relating to coronial autopsies. This applies to both whole organs and small tissue samples as well.

Typically, at least in European culture, funerals take place within one week after death, given that all arrangements can be made within that time. This depends on secular emotional, cultural, or religious considerations. Logistics informing families on organ retention and their return has been found to be difficult and barely possible [114]. Current practices where excessive sampling equals medical waste need to be brought in line with European standards. In contrast, the concept of retention should be employed in this context only for educational archives or museums for as long as the samples or specimens are held/updated. Otherwise, images from postmortem examinations and images of histological slides should be obtained. There have been major changes in issues of consent worldwide. However, the real question is its enactment, and in the complex, sensitive, and emotive area of procuring human remains.

The possible remedy for such a delay is a service that deals effectively with legal and health issues, capable of choosing a feasible test. This recognizes that the space for the "retention of organs" could fit only in a consolidated morgue (incorporated in the existing government-to-citizen communication channel) to a "Consolidated Administration of Death".

5. Conclusions

According to our findings, healthcare quality during the pandemic retained its "pre-COVID" level.

This study showed that discrepancies between clinical and postmortem examination diagnoses persist despite medical progress. There was no evident change in the discrepancy rate during the COVID-19 pandemic. Such a finding shows the healthcare quality and efficacy of the present surveillance system/management protocols.

To overcome clinicopathological discrepancies and to improve the educational environment, a novel strategy of deep learning and AI-constructed machines should be proposed.

Consolidating a morgue (incorporated in the existing government-to-citizen communication channel) to a "Consolidated Administration of Death" seems like the most promising opportunity to retain organs removed during a coroner's autopsy lawfully instead of customary but not strictly lawful practice, thus providing a significant contribution to the discussion of changes to retaining organs for educational purposes.

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