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Editorial

Forensic medicine in the time of COVID 19: An Editorial from Milano, Italy



We live in a time where forensic medicine and science in most societies are perceived as of paramount importance for the assistance of justice and the safeguard of human rights. Many of us have the fortune to live in countries or regions where wealth, politics and well being in general are sufficiently stable to guarantee a more or less straightforward practice of our profession. Hence most of us have never imagined how a pandemic, such as the present COVID 19 one, could severely jeopardize the possibility of putting our work at the service of society, be it in the realm of forensic pathology, forensic sciences in general or clinical forensic medicine. We have spent years if not decades envisaging catastrophes of quite a different nature, preparing protocols for properly recovering and identifying victims, reconstructing manner of death and collecting evidence in scenarios which span from explosions to tsunamis, from mass disasters, to single cases of voluntary homicide, child abuse, or manslaughter; but today our discipline too seems almost helpless in front of the paralysing effect of a 30-kilobase virus.

The Metropolitan city of Milano with its population of 3 million is the largest in the Region of Lombardy (population 10 million), and Lombardy is the area which has been most severely hit by COVID 19. In less than two months there have been over 62,000 cases, with over 11,000 COVID related deaths [1]. The Regional Health Service (one of the most efficient in the country from a clinical perspective) quickly reached saturation under such extreme stress, with worrying shortage of beds not only in infectious and respiratory disease wards but especially in intensive care units. At least four new hospital facilities have been developed in the region during this time to meet these needs. Shortage of swabs for COVID 19 RNA testing, saturimeters, protective gear such as gloves, goggles and masks has quickly become critical also, as well as scarcity of healthcare specialists, forcing the system to provisionally recruit new personnel [2] and in particular medical doctors with a specialisation in crucial branches of medicine such as intensive care therapy, radiology, respiratory diseases etc., as well as doctors training in these and other areas: of these professionals, 78 in the Region and over 130 in all of Italy have fallen victims of COVID 19 (along with 28 and 34 nurses respectively) [3]. Many other countries, to a smaller or greater extent, are suffering in the same delirious scenario. What does this all mean for forensic sciences and medicine?

This is an account of the reality of Milano, which has one of the largest morgue facilities for medicolegal purposes (between 800–1000 cases per year) on the national territory; but an exchange of

views with several European colleagues in some cases has confirmed similar experiences elsewhere. In less than 2 months, medico legal autopsies have drastically decreased, by 70% [4]. For reasons related to several variables (mainly the fact that the system is generally under pressure, but also to lack of protective equipment in some cases, in other cases inadequacy of forensic autopsy rooms in guaranteeing sufficient negative pressure or other fundamental prerequisites for the safeguard of environmental and operator health) full medicolegal autopsies are not being performed except for extreme circumstances, and frequently with targeted dissection (only to the extent necessary) and percutaneous sampling of fluids, as mentioned in several protocols available from across the world [5,6]. In many cities across Lombardy and Italy, University and hospital morgues had been potentiated in preparation for disasters such as terrorist bombings, in order to accommodate a large number of victims, and for technically complex situations which were to be challenging under the perspective of size (quantity of victims), trauma, taphonomy; therefore, for example, large numbers of cold storage rooms and fridge-cells, as well as radiological facilities were implemented. Very few had thought of logistics for microbiologically challenging (at least more challenging than forensic routine) medico legal activity, the tendency being in “normal” times to send such rare cases to specific pathological facilities in hospitals specialised in infectious diseases: at the moment, because of the scale of the tragedy, this is unthinkable. We know from the Prosecutor's Office in the city [7] that criminal proceedings related to traffic and occupational deaths have actually decreased with respect to normality for reasons related to limited work access and mobility; nonetheless cases of suicide and voluntary homicide have not. Therefore this forced reduction in medicolegal activity will somehow affect the justice system.

The large daily number of dead has almost completely saturated the city morgue's storage capacity and that of smaller hospitals and the sight of rows of coffins is one we had grown unaccustomed to since the large disasters involving migration across the Mediterranean in the years 2013–2017. However something very similar to ambiguous loss, a frequent companion of forensic cases, is reappearing. Ambiguous loss is defined as a situation of unclear loss resulting from not knowing whether a loved one is dead or alive [8], which results in depression and other serious conditions. In many COVID 19 cases, relatives, for a series of reasons related to quarantine and emergency dispositions, saw their loved one for the last time two weeks before he or she died in hospital and was

quickly buried due to the emergency situation. Not being able to see the body or to take part in a public ritual (such as a funeral) is already showing its effects.

More worrying news comes from our front of clinical forensic medicine, in other words from the forensic practitioners who provide clinical medico legal services for living victims. Milano has a centre for sexual assault and domestic violence (SVS & D – Soccorso Violenza Sessuale e Domestica) which every year admits 1100 victims (adults, adolescents and children) of rape, maltreatment and abuse. In the past weeks, during our lockdown, victims seeking assistance (which in the case of the SVS&D centre is clinical, psychological, forensic and social) decreased by circa 50% [9], as did formal complaints, which means that the more vulnerable parts of society are not or cannot seek help and protection (not only forensic), again because of restrictions on mobility and/or because of the fact that most of these centres are within hospitals, and therefore impracticable. In this same period, the Governmental Help line for victims of stalking and domestic violence has reported a drastic increase in requests for help [10] almost three times as many as in the same period last year (from 397 in April 2019 to 1037 in April 2020). Given what we are seeing on the clinical side, in all these cases proper forensic documentation, sampling, evidence collection and interpretation will be missing, let alone proper clinical and psychological treatment of trauma. Things are equally preoccupying if we consider the forensic humanitarian front with medico legal activity having been frozen for asylum seekers and unaccompanied minors, as well as for individuals deprived of personal freedom, the unidentified dead and their loved ones still searching for them (in these days, on April 18th, falls the fifth anniversary of the largest migrant shipwreck in the Mediterranean and hundreds are still to be identified).

Therefore, paradoxically, at a moment where crimes and needs of this sort are increasing we are somehow incapable of assisting.

In the past week, the number of cases of law suits for medical malpractice, or more generally concerning the liability of medical administrators in relation to the spreading of disease and death, has largely increased due to complaints concerning COVID related deaths in hospitals or at home, inadequate medical assistance in non COVID emergencies, and the drastic increase of deaths in nursing homes and homes for the elderly. Medicolegal professionals will most likely be recruited in the near future by the Prosecution (and the defences) to examine medical records, collect samples from the dead for evidence of infection and disease, search for comorbidity and enter the enormous beehive of proving (where possible) if the person contracted COVID 19, whether he or she died of COVID 19 or with COVID 19, and what exactly the causal role of the 30-kilobase virus was.

Teaching of forensic disciplines and forensic medicine (and of everything else) at University has also changed in a manner destined to last for quite a while: lectures, examinations and graduations are all to be held online, with the imaginable mishaps and problems this entails. Forensic research labs are mostly closed at the moment, with obvious consequences on services and research - although the present lockdown seems to

have – momentarily only – led to an increase in article submissions to our journal.

It may seem banal and trivial to say that this pandemic has indeed affected the world of forensics, at least in some areas: in fact, what hasn't it affected? Our lives in many ways will probably change for a long time. When in war (and this from a certain perspective is a war, though "real" wars entail even more critical consequences) what is urgent in the acute phase is to save and protect life and health. But for the prolonged state of the emergency, which we will most certainly be confronted with, we should probably keep in mind that forensics also, certainly more indirectly than clinical disciplines, "saves lives", protects and prevents, if applied and managed correctly, through a proper scientific assessment of death, crime and violence in general. If all this fails or somehow fades, the aftermath may be dangerous.

Fortunately, a wave of reaction and response to this is already moving within the forensic community. Some authors [11] are now suggesting how we must, each in our own legal and social reality, find for the near future ways and safe compromises in order to continue performing medico legal examinations of the dead. The same effort must also be made for clinical forensic medicine and the living.

As with all catastrophies, this one too will provide us with the occasion to open our world to new lines of thinking and even of forensic and medico legal research, perhaps leading to an amelioration of some systems once we will have paid the economical consequences.

It is a bit too early to sum up what effect all this will truly have on forensics: these few lines are simply food for thought at a critical time.

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