A contribution for the forensic odontologist's safety in the autopsy room

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ABSTRACT

The Covid 19 pandemic we are currently facing all over the world is undoubtly an emergency condition which exposes all workers to the risks of a serious infection. The personnel working in the autoptic room is at high risk for the possible contact with infected material from corpses, splashes and aerosols diffusion, and must be always prepared to stay safe and healthy. We offer to the forensic odontologists' community a short summary of some old and new hints on the treatment of dead bodies in the autopsy room during this pandemic emergency time.

We are undoubtly living a weird and dangerous time and any forensic operator must be aware of the risks in the treatment of living and dead bodies.

A vast amount of Literature has been recently written on Covid 19 treatment and Covid 19-related behavioural guidelines [1-4].

We would like to just summarize for our IOFOS Colleagues some old and new hints on the treatment of dead bodies in the autopsy room during this pandemic emergency time.

It is largely known already that the COVID-19 (Coronavirus Disease-19) is nowadays the most urgent health emergency worldwide and all professionals – included pathologists and forensic odontologists – are often called to offer support in the diagnosis and treatment of patients affected by this disease.

There are actually four hazard groups (HG) of infectious biological agents, classified according to the following considerations: the likelihood that it will cause disease by infection or toxicity in humans; how likely it is that the infection would spread to the community; the availability of any prophylaxis or treatment. At the moment, as far as any effective therapy of the Covid 19 serious illness is known and no primary prophylaxis is available due to the lack of a vaccine, we can say that the Sars-Cov 2 is provisionally categorised at the third of four HG levels of infectious biological agents, causing a serious risk of infection for professionals [1,4].

All that said, despite the high infectivity of the virus, the risks for personnel operating in the morgue facilities could be considered relatively scarce if some supplementary precautions are carefully applied by the personnel to the standard universal precautions for infection prevention; the personnel in the autoptic room, at risk for the possible contact with infected

material from corpses, sharp injuries, splashes and aerosols diffusion, must be always prepared for the possible presence of the Sars-Cov 2 infection in the dead body. [5,6] The infection can be caused by dermal inoculation, inhalation, ingestion, contamination of intact skin or oral, nasal, eye mucous membranes.

The scientific community has not found yet how long this kind of coronavirus resists - vital and infectious - in a dead body. The tests, moreover, often offer false negative results[5].

We think that it is important to share information that our research group at the University of Firenze (Italy) found that the swabs resulted positive in some dead bodies kept in the mortuary refrigerator at between 0°C and 4°C and tested after several days (7-14 days) post-mortem. The results of the aforementioned research, in disagreement with some other previously published articles, will be released soon. All bodies, except those whose swabs resulted certainly negative, during the Covid-19 pandemic time should be considered and treated in the autoptic room as potentially infected by Sars- Cov 2.

In the clear intent of offering a technical support to all the professionals (forensic pathologist, odontologist, other personnel) involved in the autoptic activities, we summarize some technical and practical hints as follows:

- The forensic personnel (forensic pathologist, odontologist, other personnel involved, FP) must be previously and properly educated about risks and prevention; the autoptic procedure must be properly programmed in advance. The room door must always be closed and the openings kept to the minimum[4].
- The number of the FP working in the autopsy room should be limited; we all know, however, that this issue can be balanced by the need of support from collaborators who can write or take photographs during the autopsy. The use of a video-registration of the procedures should therefore be usefully implemented.
- Antiseptic hand hygiene procedures must always be carefully followed in compliance with the WHO sequence[7,8]: antiseptic hand washing with alcoholic solution or antiseptic soap and water after each contact with the body.
- Special attention must be dedicated to avoid accidentally touching the face.
- Personal protection equipment (PPE) should be worn as follows: disposable headgear; double pair of cut-resistant protective disposable gloves which must extend to cover wrists: the second pair can be changed frequently, if needed; respiratory filter FFP2/N95 or FFP3/N99 in case of aereosol generating procedures, for which surgical masks do not provide adequate protection[9]; face protection gear (goggles or protective visor); disposable whole-body suit or long-sleeved waterproof or fluid-resistant gown and surgical cap; disposable rubber boots and waterproof shoe protectors.
- Strong attention must be paid to the correctness of the donning and doffing procedures.
- All the necessary equipment must be on hand range to avoid leaving the autopsy area
- Oral and nasal secretions should be previously cleared by suction.
- TC and CBCT x-rays shoud be preferred: they are carried out more quickly than the time consuming oral x-rays and allow to obtain a OPG-like image of the teeth (panorex)
- According to IOFOS recommendations[10], even more valid nowadays, we recommend to avoid any maxillary split or resection, since bone sectioning can produce potentially infected aerosol.

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