

## Revisiting Clinical Autopsies: Lessons to be Taken from the COVID-19 Pandemic

### Revisitando a Autópsia Clínica: Lições a Retirar da Pandemia de COVID-19

**Keywords:** Autopsy; COVID-19

**Palavras-chave:** Autopsia; COVID-19

Dear editor,

The number of clinical autopsies has been decreasing significantly in most European countries, with great variability of autopsy rates, from 3% to 40%.<sup>1</sup>

Nevertheless, it is still performed as a tool for quality assessment, as teaching method, as last resource for undiagnosed cases and to gain insight into disease pathophysiology.

There are variable reasons for the decrease in autopsy demand. The most important one is perhaps the improvement of diagnostic capacity of complementary tests, but also the increase in the number of lawsuits against physicians and the fear of diagnostic error.

Pathologists also play a role in this decline, since autopsy activity is frequently regarded as a low priority and commonly assigned to low experienced residents, mostly because of the overload of work with increasing complexity.

Autopsy is a very complex technique, requiring physical skills and integrated theoretical knowledge, since it is not error-free, particularly when performed by untrained pathologists. Some countries, as the United Kingdom, have defined clinical autopsy as a subspecialty of Pathology,<sup>1</sup> to increase celerity and confidence in this procedure.

Discrepancies between clinical and autopsy findings

are not infrequent, with reported rates ranging between 10% and 40%, usually classified under Goldman criteria.<sup>2</sup> In Centro Hospitalar e Universitário de Coimbra, a 11-year review, revealed a discrepancy between *antemortem* and *postmortem* diagnoses of 38% in adult autopsies.<sup>3</sup>

The redefinition of autopsy methods is imperative, with some recent procedures reported, such as minimally invasive autopsies, where radiological tests and guided biopsies are performed, with similar results to those of conventional autopsy.<sup>4</sup> This method requires that pathologists undergo some basic training in radiological studies, but may be safer, particularly in cases of infectious diseases. It would also minimize execution time and provide faster answers, which is particularly relevant given the generalized lack of pathologists.

The COVID-19 pandemic highlighted the importance of clinical autopsy, as a way of gaining knowledge about emerging infectious agents. The typical findings in COVID-19 are respiratory tract lesions, but there are also less common manifestations, such as liver injury,<sup>5</sup> so autopsy may enlighten the pathological spectrum and provide insights on treatments.

Carrying out an autopsy is even more challenging during the pandemic, since very few pathology departments have the proper working conditions. A reasonable alternative would be the establishment of protocols with forensic departments that have these facilities.

In short, a redefinition of autopsy methods, the development of protocols with forensic departments and the creation of a subspecialisation in clinical autopsy would be useful in order to improve this crucial medical procedure.

## REFERENCES

1. Alfsen G, Pontinha C. Autopsies in Europe. Results of a survey among the members of the European Society of Pathology (ESP). *Virchows Arch.* 2018;473:120.
2. van den Tweel J, Wittekind C. The medical autopsy as quality assurance tool in clinical medicine: dreams and realities. *Virchows Arch.* 2016;468:75–81.
3. Lai A, Pimentão M, Ramalhosa F, Faria C, Almeida V, Moreira H, et al. Adult clinical necropsies: the gold standard of clinical practice are decreasing worldwide. And in Coimbra? A retrospective study from 2007 to 2018 comparing clinical and autopsy diagnoses. *Virchows Arch.* 2019;475:34.
4. Blokker B, Weustink A, Wagenveld I, Von der Thüsen J, Pezzato A, Dammers R, et al. Conventional autopsy versus minimally invasive autopsy with postmortem MRI, CT, and CT-guided biopsy: comparison of diagnostic performance. *Radiology.* 2018;289:658–67.
5. Lee I, Huo T, Huang Y. Gastrointestinal and liver manifestations in patients with COVID-19. *J Chin Med Assoc.* 2020;83:521–3.

Rui ALMEIDA✉<sup>1,2</sup>, Rui Caetano OLIVEIRA<sup>1,3,4</sup>

1. Pathology Department. Centro Hospitalar e Universitário de Coimbra. Coimbra. Portugal.

2. Faculty of Medicine. University of Coimbra. Coimbra. Portugal.

3. Biophysics Institute. Faculty of Medicine. University of Coimbra. Coimbra. Portugal.

4. Area of Environment Genetics and Oncobiology. Coimbra Institute for Clinical and Biomedical Research. Faculty of Medicine. University of Coimbra. Coimbra. Portugal.

Autor correspondente: Rui Almeida. [ruigoncalinhoalmeida@gmail.com](mailto:ruigoncalinhoalmeida@gmail.com)

Recebido: 02 de agosto de 2020 - Aceite: 03 de Agosto de 2020 | Copyright © Ordem dos Médicos 2020

<https://doi.org/10.20344/amp.14675>

