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Rocha, Luiz Otávio Savassi
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Autopsy Case Reports

Editorial

Death certificate: admitting uncertainty

Luiz Otávio Savassi Rocha[a]

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In the essay published in the section "On being a doctor" of the Annals of Internal Medicine journal, Dr. Danielle Ofri,[1] reflecting on her experiences, wrote:

> *The illusion of omniscience blithely promised by my residency training is easily deflated by the unadorned actualities of life.*

As an educator, I do not like the expression "residency training", because, especially in the case of medical education, to "train" a person would be to convert her or him, as Albert Einstein[2] put it, into a "useful machine" — and educating is much more than that. In the words of Albert Einstein:

> *It is not enough to teach a man a specialty. Through it, he may become a kind of useful machine but not a harmoniously developed personality. It is essential that the student acquire an understanding of and a lively feeling for values. He must acquire a vivid sense of the beautiful and of the morally good. Otherwise he—with his specialized knowledge—more closely resembles a well-trained dog than a harmoniously developed person. He must learn to understand the motives of human beings, their illusions, and their sufferings, in order to acquire a proper relationship to individual fellow men and to the community.*

Notwithstanding this caveat, Dr. Danielle Ofri's phrase is anthological and has everything to do with the instigating aphorism from William James:

> *We carve out order by leaving the disorderly parts out.*

which is included as an epigraph in the book, *How Doctors Think*, by Jerome Groopman, a professor at Harvard Medical School.[3] I consider this preamble necessary to establish the following considerations.

In 2006, the booklet *A Declaração de Óbito: Documento necessário e importante* (*Death Certificate: an important and necessary document*) was published in Brazil by the Ministry of Health (MS), the Federal Council of Medicine (CFM), and the Brazilian Center for the Classification of Diseases (CBCD). In 2007, the second edition was published, with a circulation of 400,000 copies. In the presentation of the booklet, two ineluctable statements were made: "The death certificate is a voice that transcends the finitude of being and allows the last portrayed life moments to continue in the service of life." [...] "Its correct filling by doctors is, therefore, an ethical imperative." I agree, verbatim, with these two statements and I think it is extremely important that, endowed with a high degree of responsibility, doctors correctly fill out the death certificate, respecting (whenever possible) the proposed pathophysiological sequence: immediate cause → intermediate causes → primary cause of death (part I); other significant pathological conditions that contributed to death but were not related to the pathological condition that produced it (part II). However, I raise an objection concerning the record of death from natural causes insofar as the use of the expression "unknown cause of death" is admitted, at least explicitly, only in places without an autopsy service, and even then only in very specific circumstances, that is, when death occurred in an ambulance without a doctor; when a

[a] Federal University of Minas Gerais (UFMG), Faculty of Medicine, Internal Medicine Department. Belo Horizonte, MG, Brazil.

cardiac arrest occurred soon after the patient's arrival in the emergency room; when the physician, as the sole professional in the city, did not provide care to the patient; and finally, in the case of death during transfer from hospitals or outpatient clinics. In places with an autopsy service, it is apparently assumed that all doubts will disappear after the corpse is examined. Thus, uncertainty would not be admitted in cases in which the doctor who provided care to the patient was unable to reach a conclusion regarding the cause of death, which is not an uncommon situation in daily practice, even in so-called "reference centers". Also, uncertainty would not be admitted after the autopsy is performed, as if a simple macroscopic evaluation—based on which the death certificate is completed in most cases—could close the matter.

It is known that, in cases of death due to supposedly natural causes, with or without medical assistance, the autopsy must only be carried out via a written authorization—by signing a free and informed consent form—from the person in charge or a family member. Ideally, the procedure should be performed in university centers by professionals with recognized expertise. However, even if the autopsy is authorized, serious questions persist—especially in the absence of reliable clinical reports—given that the death certificate is usually filled out based solely on macroscopy. Although, in most cases, these questions are resolved by histopathological analysis, the results of this analysis generally only become available a few weeks after the cadaver is examined. An autopsy-based study conducted at the Department of Pathology of the School of Medicine of the University of São Paulo illustrates the importance of microscopy in reformulating the macroscopic diagnosis. Despite the limitations of this study, which were recognized by the authors, discrepancies between the macroscopic and microscopic evaluations were identified in 38.7%, 35.1%, and 30.3% of cases with regard to lungs, liver, and kidneys, respectively.[4] Performing microscopic examinations from frozen tissue sections during the course of the autopsy may, to some extent, overcome such discrepancies and ultimately provide invaluable elements to improve the quality of the death certificate.[5]

In cases with doubtful diagnosis, when an autopsy is not allowed, or in cases in which the post-mortem examination is inconclusive, it would be difficult for the assistant clinician or the pathologist to fill out the death certificate without, on the one hand, having the resources to complete it accurately and, on the other, having the option to express uncertainty. Pressured by circumstances, the professional often chooses to improperly note "cardiorespiratory arrest" or "multiple organ failure" as the immediate cause of death, without further specification.

The difficulty inherent to filling out the death certificate—with the exception of the paradigmatic cases cited, by way of example, in the booklet by the MS, CFM, and CBCD—is reaffirmed by discrepancies between clinical diagnosis and post-mortem findings that are repeatedly documented in the literature, even after the advent of modern diagnostic tools.[6] It is well known that in recent decades, due to the undeniable technological progress and improvements in diagnostic methods, there is an excess of confidence among physicians who, judging themselves immune to error, relegate anatomical–clinical correlation to the background. This explains in part the enormous decline in the number of autopsies, even in university settings. Nevertheless, in contrast to expectations, the incidence of errors detected by autopsies remains high, as reported in a thought-provoking editorial by Dr. George D. Lundberg,[7] who also proposes an explanation for the phenomenon as follows:

> *In fact, there is still a giant gap between what high-tech diagnostic medicine can do in theory in ideal circumstances* (very much, very well) *and what high-tech diagnostic medicine does do in practice in real-life circumstances* (not nearly so well)*, when human beings have to decide what, where, when, how, and why to use it. The gap becomes especially obvious when one looks at patients sick unto death.*

Based on the above, I suggest putting aside the omniscience mentioned by Dr. Danielle Ofri and humbly accepting the "disorderly parts" referred to by William James in order to encourage the physician to admit uncertainty and, in doubtful cases, to refer to the cause of death as "unknown" or, preferably, "undetermined", despite having cared for the patient as a clinician or having subjected the corpse to a careful post-mortem examination as a pathologist.

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Correspondence
Luiz Otávio Savassi Rocha
Internal Medicine Department - Faculty of Medicine - Federal University of Minas Gerais (UFMG)
Avenida Professor Alfredo Balena, 190 – Bairro Santa Efigênia – Belo Horizonte/MG – Brazil
CEP: 30130-100
Phone: +55 (31) 3409-9746
losavassirocha@gmail.com