

Autopsy in the elderly

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Medicine in general, and geriatrics in particular, owe much to the knowledge derived from autopsies. Giovanni Battista Morgagni, the Italian scientist and father of pathological anatomy (1682–1771), in his book *On the Locations and Causes of Diseases*, describes 50 years of research on 500 autopsies, studying the correlation between clinical symptoms and autopsy findings. It was the final elimination of humoral theory as the sole and final cause of all diseases. This book—a real watershed in the history of medicine—addresses many of the conditions of aging, and was published when the author was already 79 years old.

At the same time, Johann Bernard von Fischer (1685–1772) wrote the first book on the elderly, and broke with medieval tradition by addressing modernity. In his work *De Senio Eiusque Gradibus et Morbis (The Old Age, its Stages, and its Diseases)*, published in Germany in 1754, the author vigorously attacks the pessimism in the medical environment on the care of the elderly. In the first part of his book, von Fischer devotes himself to the study of the anatomy and physiology of the elderly, seeking to separate normal aging and disease. He lists characteristics of aging: dilation of the heart and aorta, calcification of small vessels, cerebral thinning, cartilage thickening, and bone degeneration. He also describes the characteristics of breathing, pulse, sleep, nutrition, and excretion. The second part of the book is dedicated to diseases and their treatment, and the third part defines hygiene rules that should be followed by the elderly.¹

The number of autopsies markedly decreased with the advent of new diagnostic methods and equipment

to such an extent that the post-mortem examination is now performed with the aid of computed tomography and magnetic resonance imaging, termed “non-invasive autopsy.”

“Are autopsies a necessary resource in the diagnosis of the afflictions of the elderly today?”

In 2016, Euler et al.² published an interesting paper analyzing the diagnosis of 73 patients with a mean age of 53.2 years who were admitted to emergency trauma and did not survive the first 48 hours. Under these conditions, he compared the diagnoses obtained by the analysis of multi-slice tomography with those obtained by autopsy. Failed diagnoses and missed potentially fatal diagnoses were analyzed. It is evident that examinations missed at least 25% of all diagnoses and 4.1% of life-threatening diagnoses. It concludes that autopsy could be necessary to determine potentially missed diagnoses and for quality control.

Another field in which autopsies can bring benefits in comparison to non-invasive diagnostic methods is the possibility of obtaining biological samples that contribute to the ongoing development of medical studies. A notable example is that of the brain bank developed by the USP School of Medicine, which has allowed essential studies in the area of brain aging and conditions, such as dementia or Parkinson disease.³

Therefore, it is clear that in addition to cases of legal medical necessity, the autopsy can still be performed as a diagnostic tool in elderly victims of trauma, and in the advancement of academic studies.

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