

Evaluation of Forensic Pathology Practice Outside Germany - Experiences From 20 Years of Second Look Autopsies in Cooperation with the Institute of Legal Medicine Munich

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Abstract : Background: The sense and purpose of forensic postmortem examinations are undoubtedly the same in Institutes of Legal Medicine all over the world. Cause and manner of death must be determined, persons responsible for unnatural death must be brought to justice, and accidents demand changes in the respective scenarios to avoid future mishaps. The latter particularly concerns aircraft accidents, not only regarding consequences from criminal or civil law but also in pursuance of the International Civil Aviation Authority's regulations, which demand lessons from mishap investigations to improve flight safety. Irrespective of the distinct circumstances of a given casualty or the respective questions in subsequent death investigations, a forensic autopsy is the basis for all further casework, the clue to otherwise hidden solutions, and the crucial limitation for final success when not all possible findings have been properly collected. This also implies that the targeted work of police forces and expert witnesses strongly depends on the quality of forensic pathology practice. Deadly events in foreign countries, which lead to investigations not only abroad but also in Germany, can be challenging in this context. Frequently, second-look autopsies after the repatriation of the deceased to Germany are requested by the legal authorities to ensure proper and profound documentation of all relevant findings. Aims and Methods: To validate forensic postmortem practice abroad, a retrospective study using the findings in the corresponding second-look autopsies in the Institute of Legal Medicine Munich over the last 20 years was carried out. New findings unreported in the previous autopsy were recorded and judged for their relevance to solving the respective case. Further, the condition of the corpse at the time of the second autopsy was rated to discuss artifacts mimicking evidence or the possibility of lost findings resulting from, e.g., decomposition. Recommendations for future handling of death cases abroad and efficient autopsy practice were pursued. Results and Discussion: Our re-evaluation confirmed a high quality of autopsy practice abroad in the vast majority of cases. However, in some casework, incomplete documentation of pathology findings was revealed along with either insufficient or misconducted dissection of organs. Further, some of the bodies showed missing parts of some organs, most probably resulting from sampling for histology studies during the first postmortem. For the aeromedical evaluation of a decedent's health status prior to an aviation mishap, particularly lost or obscured findings in the heart, lungs, and brain impeded expert testimony. Moreover, incomplete fixation of the body or body parts for repatriation was seen in several cases. This particularly involved previously dissected organs deposited back into the body cavities at the end of the first autopsy. Conclusions and Recommendations: Detailed preparation in the first forensic autopsy avoids the necessity of a second-look postmortem in the majority of cases. To limit decomposition changes during repatriation from abroad, special care must be taken to include pre-dissected organs in the chemical fixation process, particularly when they are separated from the blood vessels and just deposited back into the body cavities.

Keywords : autopsy practice, second-look autopsy, retrospective study, quality standards, decomposition changes, repatriation

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