

Estimate time of death by analysis of tomographic images of the intra cardiac hypostasis

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In cases of criminal investigation, the determination of the time of death can acquit or condemn a suspect. Currently, the published studies related to the raising of the postmortem CT do not consider the possibility of using the complementary image exams as support to the estimate of the postmortem interval, being that one of the main motivations to the execution of the present study, once the multislice computed tomography is an excellent method of measure of density. In this scenery, the goal of this study was to improve the precision of the determination of the time of death through the tomographic evaluation of the intracardiac hypostasis. A prospective study was performed with data obtained from 23 bodies of patients, which were forward to the autopsy center of the city of Sao Paulo. Tomographic images of thorax were obtained sequentially, by using SOMATOM® Emotion syngo CT 2012E, with intervals of one hour each one between the exams, in order to allow the analysis of the modifications of the density of the hypostasis over time. For doing so, images were obtained with postmortem interval between one and twenty hours. In the mediastinum window, the right and left atrium were selected in order to obtain the measures of the average organ density. It was possible to conclude that the majority of the intracardiac hypostasis would stabilize between 8 and 10 hours. Furthermore, the statistical model of Mitscherlich can be used to describe the behavior of the images according to the postmortem interval.

Biography

Talita Zerbini has completed his Ph.D. at the age of 30 years-old at University of Sao Paulo. She is a forensic medical examiner of the Medical Legal Institute of Sao Paulo-Brazil and has published many papers in reputed journals. She also teaches Forensic Medicine to undergraduate students of Medicine and to graduate students of different areas at University of Sao Paulo.

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