

Post mortem computed tomography of heart

Veronica Macchi¹, Andrea Porzionato¹, Aldo Morra², Cinzia Tortorella¹, Raffaele De Caro¹

¹Institute of Human Anatomy, University of Padova, Padova, Italy

²Radiology, Euganea Medica Center, Padova

Post mortem Computed tomography (CT) has been increasingly used in routine forensic practice and research. While radiological examination is generally considered to be a good complement for conventional autopsy, it was thought to have limited application in cardiovascular pathology. The aim of the present study is to show our experience of radiological analysis of the heart as single organ, as an integrative tool for research and forensic applications. The anatomo-radiologic study for forensic purpose was performed on 10 hearts sampled at autopsy (8M, 2 F, mean age 45 years old). The specimens underwent CT examinations. In 5 out of 10 of cadavers, a myocardial infarction was found at macroscopic and microscopic analysis. In these same cases, the CT examination showed the presence and the localization of calcifications, corresponding to the infarct area. In 90% of cases the presence of calcifications allowed the visualization of the coronary arteries and their branches. Basing on our experience, isolated single-organ CT could be considered a useful integrative tool in addition to traditional autopsy investigation (macroscopic sections and histology) in identifying the cause of death by recognizing the presence and degree of coronary artery pathology.

Keywords

Computed tomography, Coronary artery, Forensic clinical anatomy