

A Comparison of Post Mortem Computed Tomography and External Examination of the Neck in Suspected Hanging Cases

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Abstract

Post mortem Computed Tomography (PMCT) in the 21st century has become an integral feature in forensic medicine. Hanging is the most common method of suicide in the United Kingdom, peaking amongst those aged 45-54 years. This study examined the two methodologies at post mortem to determine if they were complimentary in identifying the cause of death in suspected hanging cases. This study examined 19 cases (mean age, 44) between January and August 2020 at the iGene CT facility in the Coroners mortuary in Stoke-on-Trent. Retrospective images produced using a 'Siemens SOMATOM go. All CT' scanner in a range of different parameters (e.g. KV, pitch, rotation time, slice thickness (mm), increment (mm), Kernel and window were evaluated. Post mortem reports from the external examinations at the Coroners mortuary were anonymised and made available for analyses in comparison to the PMCT data. Tabulated parameters of the written statements as qualitative data were generated and evaluated using descriptive statistical analyses. There are case examples where PMCT is the superior methodology in identifying and interpreting fracture of the hyoid bone where post mortem external presentation showed inconsistencies. From the data available from the 19 cases in 2020, this suggests that PMCT is complimentary to the current conventional method of the external post mortem examination to more confidently identify neck trauma in suspected hanging cases. The documentation and clinical terminology used in reporting post mortem neck trauma findings requires the development of best practice guidelines to make reporting more consistent. Dani Chew is currently an Undergraduate student at Staffordshire University in the final year of a BSc (Hons) Forensic Investigation degree.

Biography

Chew, Danielle, Kralt, Peter, Cassella, John Barkley, Andrew is completed their courses in School of Law, Policing and Forensics, Staffordshire University, UK.