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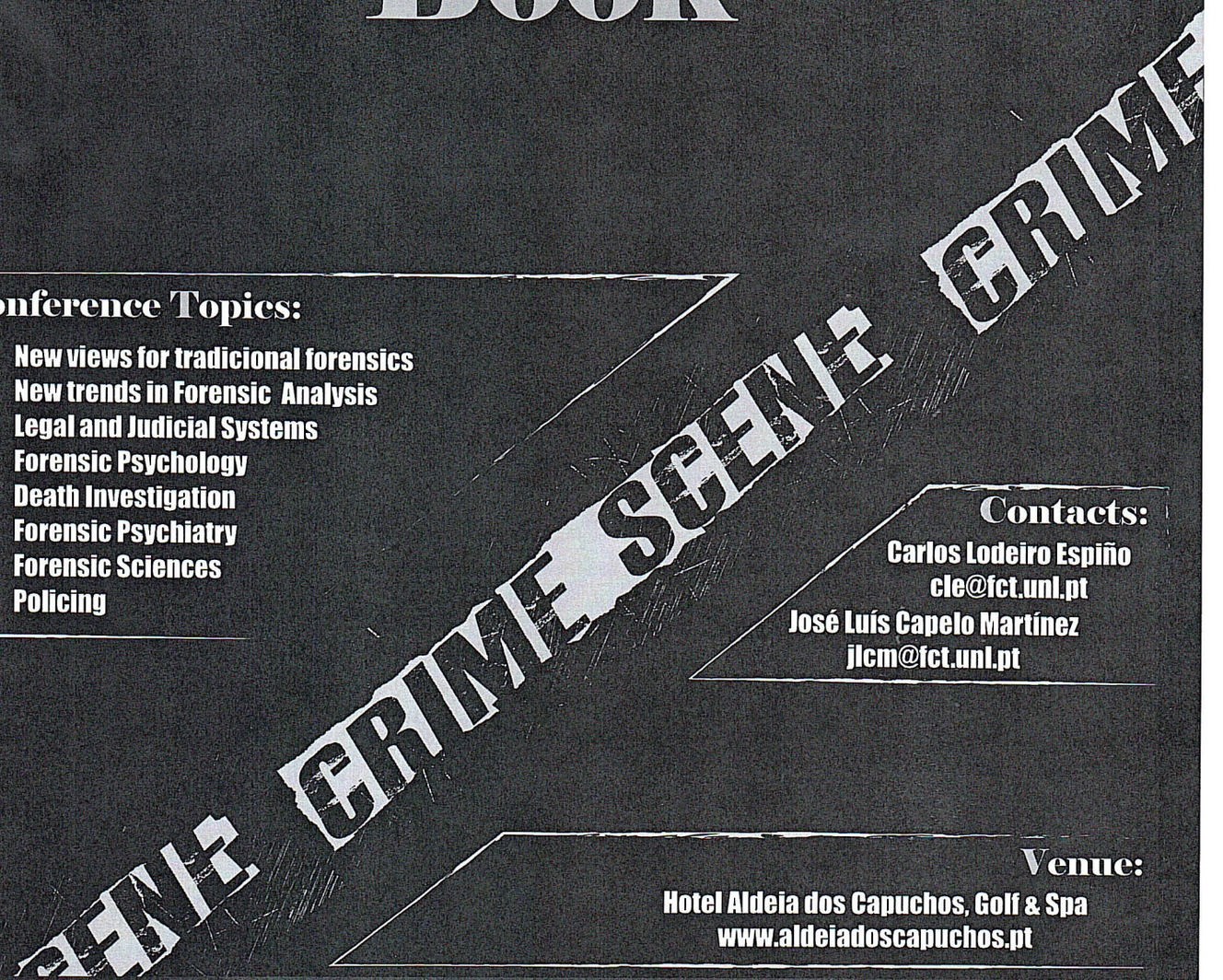

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P 13 - Significance of Troponin I in determination of sudden cardiac death

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Abstract

Introduction: Sudden cardiac death is a sudden, unexpected death caused by loss of heart function. Determination of cause of sudden cardiac death includes, gross external examination, histopathology findings as well as postmortem biochemistry investigations, such as Troponin I levels. Cardiac Troponin I is not normally present in the human serum, unless cardiac cell necrosis has occurred. [1,2]

Materials and methods: We performed a total of 190 autopsies, in which samples of pericardial fluid, heart chamber blood and subclavial blood vessels were obtained and levels of Troponin I were measured with Microparticle Enzyme Immunoessay (MEIA) technology. Of these, 107 cases histologically were confirmed as sudden cardiac death. 57 cases were diagnosed as violent death and 16 cases were non-cardiac natural death (such as bronchopneumonia, pulmonary embolism and gastrointestinal hemorrhage).

Results: In the sudden cardiac death group (A), 106 cases had a measurable level of Troponin I. One case of group A had a negative result. In the violent death group (B), 53 cases had a positive Troponin I levels, four cases were negative. And in the non-cardiac related natural death group (C) all 16 cases were Troponin I positive.

Conclusion: Our study confirms that measurable Troponin I levels in blood or pericardial fluid can not be taken as exclusive finding on which to base diagnosis of sudden cardiac death. Troponin elevated level indicates of myocardial damage but can't conclude the mechanism of damage.

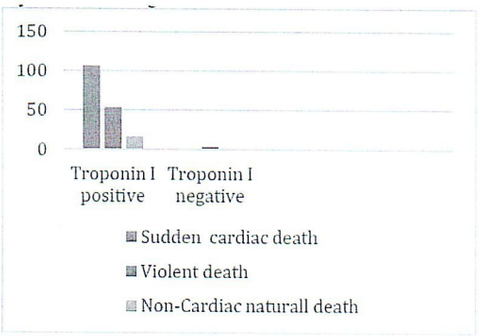

Figure 1. Troponin I cases

Key words: Troponin I, myocardial damage, natural and violent death

References

[1] Katus (H), Looser (S), Hallermayer (K), Development and in vitro characterisation of a new immunoassay of Cardiac Troponin T. Clin. Chem. 1992; 38; 386-93.

[2] Krishan Vij, Textbook of forensic medicine and toxicology, 5 th edition, Elsevier; 100